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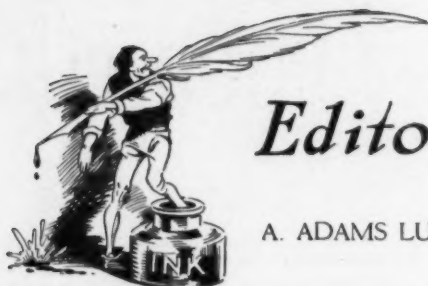
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H. KOHNSTAMM & CO., Inc.

**NEW YORK, N. Y.
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**CHICAGO, ILL.
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Editorial

A. ADAMS LUND, Editor

Now's the Time

A FEW more days and many of us—we hope *most* of us—will be assembled at the annual confectioners' conclave in Chicago. This 47th Convention of the National Confectioners' Association promises to be productive of much that will be of value to the industry. In this respect, it is not one whit different from the forty-six other conventions that have preceded it.

Occasionally, however, pre-convention assurances of constructive gain have gone awry. Sometimes an active and over-enthusiastic committee has led the members to expect more in the way of accomplishment than has ultimately resulted. The aftermath has been a general feeling of dissatisfaction. Actually, the committees have in many cases had the stage all set for action and it remained only for the convention body to get together and *do* something in order to push a worthy pro-

gram on to a satisfying conclusion. But at this point there has been a lack of coordination, and a happy fruition of events has not materialized. It takes time, patience and understanding to overcome the inertia and immobility of so large an industry.

It takes, also, cooperate understanding and willingness to compromise before appreciable progress can be made. A major industry, such as ours, must and **WILL** eventually be aroused from its state of lethargy. Its inherent inertia will be overcome and once that has been accomplished, nothing can stop its progress.

Is this the time for us to arouse ourselves, or shall we wait for a few more conventions to come and go before doing something about it? We feel that the time is ripe *NOW, this year*, between June 2nd and 6th, to kick ourselves loose and get going! Don't **YOU**!

For Some People— June Is Not the Month of Roses

A CCORDING to a hitherto unfailing precedent, in sixty days, Mr. Candy-maker, you will again be playing the part of an ungracious host to Pandora's hordes. To the average confectionery manufacturer, June is not the Month of Roses, but the *month of moths*. Billions of diminutive "butterflies" will emerge from their warm cocoons in the raw materials in your stock rooms—bent upon their merciless errand of spoilage and destruction.

Of course, you may be one of the provident birds who are all prepared to meet this annual challenge of the invading

hordes with that deadliest of known weapons—poison gas. But the law of averages makes it a reasonably safe bet that you will *not* be. For it is a sad commentary upon modern educational methods that comparatively few people realize the seriousness of the insect menace until they have suddenly suffered some staggering and breath-taking loss. If you do not believe that you have a problem on your hands, look into the fig growers' plight. As a result of continued neglect of warnings, their produce is today virtually embargoed from the United States.

Indeed, lethal gas fumigation for the

control of insect infestation seems destined within a few years to become as much a part of one's normal factory operations as the selection of a raw material or the packaging of the finished product.

For it is a fact that both raw materials and finished candy can now be cleansed and subsequently safeguarded against insect contamination by means of scientifically designed vacuum and atmospheric chambers in which a choice of several gases—

non-injurious to the products treated—may be safely and economically applied.

Food fumigating is already a highly specialized craft. Small parcels or whole factories can be sterilized with almost equal facility. The charges for this service compare favorably with other forms of protective insurance.

Will June be the Month of Moths—for you?

Standardization Versus Variety

ALL is change in this world and as creatures in it, human beings demand change in all things pertaining to them. The candy industry has only partially taken advantage of this attribute of human nature, and then principally in the use of materials which come to them in finished form—the result of some other fellow's ingenuity, rather than their own.

The first, or eye appeal of the candy market is varied, we grant you; but the part of the package which resells it—the candies themselves—are of the same old order month in and month out—standardized numbers mostly, the same line that was in the purple box last month or the pink box two years ago. If that is what is meant by standardization, it is not a healthy thing for the candy industry.

But standardization to our minds does not mean lack of variety. We might cut down a line from 200 to 15 numbers and by keeping those 15 numbers constantly varied be able to offer the customer greater

variety, rather than less. Automobiles are about as standardized a product as one would want but who wants last year's automobile when the new model has completely outmoded it? But unlike the candy maker, the car manufacturer has changed inside as well as its dress.

And so we most emphatically insist that it is the candy and not the package which is the article being sold, and that more thought should be given to varying the appeal of the candy itself.

The exhibits at the N. C. A. convention in Chicago next month will undoubtedly have among them many new raw materials, which can be made to help in this task of creating new taste appeal; some few will be so new as to make entirely new types of candy possible.

So give the exhibits more than a good-natured once-over; they will be put there with the idea of showing you the way to do more business and make more money on what business you do do.

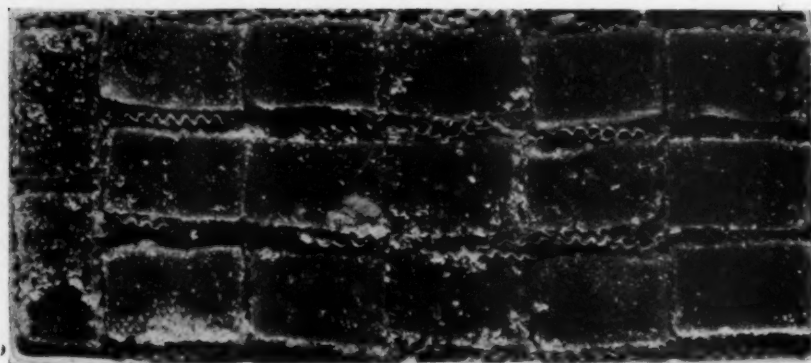
A Move for the Better

IF HAS been said that if one stood at Times Square long enough he would eventually meet most of the people worth meeting. Possibly the same might be said for the Chicago loop and for other teeming centers of world commerce. So with feet planted firmly in the loop district of Chicago and our editorial head

projecting from Times Square, New York, we ought to be able to see and hear things as well as anybody.

After May 1st, the editorial headquarters of *THE MANUFACTURING CONFECTIONER* and the eastern office of *THE CONFECTIONERY BUYER* became located at 303 West 42nd Street, New York City.





The Colloid Chemistry of Gelatine and Starch Mixtures

By WERNER W. DUECKER
Industrial Fellow, Mellon Institute

THE two principal colloids used by the confectioner in the fabrication of various kinds of candy are gelatine and starch. The latter, when properly swollen and dried together with sugar and other ingredients, constitutes what is known as a starch jelly or gum. Gelatine, of course, is used with sugar to retard crystallization and in the fabrication of marshmallows. These two colloidal substances form jellies which are characteristic. Starch jellies are relatively short. Gelatine jellies are quite unlike them in that, depending upon their water content, they are not so short. Gelatine gums, because they necessarily become tough when dried, have never found favor with manufacturers, who believe that our gum chewing nation fancies softer gums. Since both of these substances form jellies, the question arises whether the one could be used to supplant the other or whether perhaps both could be used together to form a better and different gum. This article describes a series of experiments which were designed to determine whether gelatine could be used in conjunction with starch in the production of gums.

Opposite in Temperature Requirements

Gelatine must be dissolved in water and must not be exposed to high temperatures for prolonged periods of time, since otherwise it loses its strength. Starch solutions, on the other hand, must be heated to boiling temperatures for some time in order that the starch may swell and exert its colloidal character. If gelatine were dissolved in water, added to a starch, and then boiled until the starch had swollen sufficiently, the gelatine would lose all its strength. In order, therefore, to avoid the destruction of the gelatine, and in order to develop the true colloidal nature of each, in the experiments here described a typical starch gum and gelatine gum were prepared separately. Various proportions of these two were then intimately mixed and cast in starch. Some of the gums were allowed to dry at 100°-120° F., while others were dried at room temperature. The molding starch contained 7.5 per cent of moisture. The temperature of the molding starch was 90°-95° F. The gums were dried for 24 hours. (Table I.)

Gelatine Increases String

OF the gums dried at 110°-120° F., the best was that made entirely with starch. Small additions of gelatine produced a pronounced change in consistency by causing the starch gum to become stringy. This stringiness increased with increasing concentrations of gelatine. It was also noticed that gums dried at 110°-120° F. were covered with a hard glazed surface when they contained gelatine.

The best gum dried at room temperature was that made entirely with gelatine. The addition of starch caused the gum to become soft and to take on a very moist appearance.

From the data given in Table I it is evident that starch gums containing large quantities of gelatine could not very well be dried at 110°-120° F. When dried at room temperature the gums were decidedly moist. In order to get rid of some of this excessive moisture, another lot of gums, described in Table II, was prepared. The starch gum used in this series was heated longer than in the previous series in order to reduce its moisture content. (See Table II.)

THE MANUFACTURING CONFECTIONER

WHEN dried at 110°-120° F., all the gums were quite hard. The addition of gelatine softened the product. Of all the gums dried at 110° F., that containing 80 parts A and 20 parts B was the best. The addition of greater quantities of gelatine caused the gums to become tough and to be covered with a decided crust.

When dried at room temperature, the gum made entirely with gelatine was typical. Adding starch to the gelatine gum caused it to become soft.

It was thought that possibly the moistures observed in gums dried at room temperature could be overcome by varying the sugar content or by increasing the starch content. The gums described in Table II and IV and were made with varying proportions of starch, sugar and corn syrup. (Table III.)

THE gums dried at 110° F. and made entirely with starch were suitable. As the percentage of gelatine increased, the gums became softer. Maximum softness was observed at 50 parts A, 50 parts B.

The gum made entirely with gelatine and dried at room temperature was typical. As the starch content of the gum increased, the product increased in softness. The maximum softness was found at 50 parts A, 50 parts B.

The gums in Table IV showed the peculiarities that were noted before. As the concentration of sugar in the gum was increased, the effect of

added quantities of gelatine became more noticeable.

Summary

DRYING a gum containing starch and gelatine at 110°-120° F. delays or entirely prevents the setting of the gelatine, and the final product owes its characteristics nearly entirely to the starch present.

Gums containing starch and gelatine, when dried at 110°-120° F., are nearly always covered with a hard glazed film. The depth of the glazed film is proportional to the quantity of gelatine present.

The loss of moisture is minimized

when gums containing starch and gelatine are dried at room temperature, and the resulting jellies owe their characteristics nearly entirely to the gelatine present.

Starch-gelatine gums dried at room temperature show a tendency to separate into two layers.

When gums are dried at 120° F., it seems that separation also takes place. The starch settles to the bottom of the mold; the gelatine rises to the top and dries as a hard surface layer.

The addition of starch to a gelatine gum changes its characteristics so as to render it entirely unsuitable.

The addition of small quantities of gelatine to a starch gum is not so noticeable, except that it makes the gum slightly stringy.

Conclusions

JUDGING from the results obtained from these and other experiments, it appeared to be inadvisable to attempt to prepare gums containing both gelatine and starch. The mixtures were not homogeneous. It has long been known that two colloids may neutralize each other and cause flocculation and precipitation. However, one would not suppose that such a reaction could take place between gelatine and starch. Neither would one suppose that when two such colloids as gelatine and agar—which in neutral solution are very much alike—are mixed, and a visible reaction would take place. Such, however, seems to be the case. Beijerinck (Koll.

TABLE I

SOLUTION A

485 parts Sugar.
514 parts Corn Syrup, 42° Bé.
700 parts Water.
2.23 parts Cream of Tartar.
128.6 parts Starch
342 parts Water

SOLUTION B

600 parts Sugar.
400 parts Corn Syrup 42° Bé.
75 parts Gelatine.
340 parts Water.

PERCENTAGE COMPOSITION

Parts A	Parts B	Sugar	Corn Syrup	Starch	Gelatine	Dried at 110-120° F.	Dried at Room Temperature
100	...	50	50	12.8	...	Heavy	Fair
90	10	51	49	11.5	0.75	Short	Soft
80	20	52	48	10.2	1.50	Short	
70	30	53	47	8.9	2.25	Short	
60	40	54	46	7.6	3.00	Short	
50	50	55	45	6.4	3.75	Chewy	
40	60	56	44	5.1	4.50	Chewy	
30	70	57	43	3.8	5.25	Chewy	
20	80	58	42	2.5	6.00	Chewy	
10	90	59	41	1.2	6.75	No Good	
..	100	60	40	...	7.50	Chewy	Good

Increasing Softness

MAXIMUM SOFTNESS

Increasing Softness

TABLE II

SOLUTION A

485 parts Sugar.
 514 parts Corn Syrup, 42° Bé.
 700 parts Water.
 2.23 parts Cream of Tartar.
 128.6 parts Starch
 342 parts Water

SOLUTION B

600 parts Sugar.
 400 parts Corn Syrup 42° Bé.
 75 parts Gelatine.
 340 parts Water.

PERCENTAGE COMPOSITION

Parts Parts

A	B	Sugar	Corn Syrup	Starch	Gelatine	Dried at 110-120° F.	Dried at Room Temperature
100	...	48.5	51.4	12.8	...	Rather hard	Fair Soft
90	10	49.6	50.2	11.5	0.75	Fair	Very short
80	20	50.6	49.1	10.2	1.5	Good	Soft
70	30	51.6	47.9	9	2.25		MAXIMUM SOFTNESS
60	40	53.1	46.8	7.7	3.0		
50	50	54.2	45.7	6.4	3.75		
40	60	55.4	44.5	5.1	4.5		
30	70	56.5	43.4	3.8	5.25		
20	80	57.7	42.2	2.5	6.0		
10	90	58.8	41.1	1.2	6.75	No good	No good
..	100	60	40	...	7.50	No good	Good

Increasing
↓
Toughness

Increasing
↑
Softness

THE COLLOID CHEMISTRY

TABLE III

SOLUTION A					SOLUTION B				
1000 parts Sugar 103 parts Starch 11 parts Cream of Tartar 2117 parts Water					600 parts Sugar. 400 parts Corn Syrup 42° Bé. 75 parts Gelatine. 340 parts Water.				
PERCENTAGE COMPOSITION									
Parts A	Parts B	Sugar	Corn Syrup	Starch	Gelatine	Dried at 110-120° F. Hard	Dried at Room Temperature Typical		
100	...	100	..	10.3	...	Increasing Softness ↓ MAXIMUM SOFTNESS	Increasing Softness ↓ MAXIMUM SOFTNESS		
90	10	96	4	9.2	0.75				
80	20	92	8	8.3	1.50				
70	30	88	12	7.2	2.25				
60	40	84	16	6.1	3.00				
50	50	80	20	5.1	3.75	Increasing Softness ↑ Dried hard	Increasing Softness ↑ Typical		
40	60	76	24	4.1	4.50				
30	70	72	28	3.0	5.25				
20	80	68	32	2.0	6.00				
10	90	64	36	1.0	6.75				
..	100	60	40	...	7.5				

Zeitschr. 7, 16, 1910) has shown that even with shaking one cannot mix a 10 per cent solution of gelatine and a 2 per cent solution of agar. The solution which is present in the smallest volume is visible as microscopic droplets in the second solution. On solidification, these droplets are fixed, and the resulting jelly appears uniform and homogeneous. When one shakes a 10 per cent solution of soluble starch with a 10 per cent solution of gelatine (Beijerinck, Centralb für Bakteriologie, 2, Abt. 2, 698-699 (1896)), no mixing occurs even when the mixture is heated. The final result is an emulsion. On standing this emulsion breaks. The specific gravity of the starch solution being greater than the specific gravity of an equal concentration of gelatine, the starch settles, leaving a supernatant layer of gelatine. Ostwald (Kolloid Zeitschr. 47, 258, (1928)) continued the researches of Beijerinck and described the results he obtained with gelatine and rice, corn, wheat and potato starch. He found that as one added gelatine

($\frac{1}{8}$ per cent) to a starch solution (2.3-5 per cent), the solution separated into two layers. The maximum volume of the lower layer was obtained for intermediate values of gelatine. If starch (0.25-5 per cent) is added to a gelatine solution

(4 per cent), separation occurs and the volume of lower layer formed is dependent upon the quantity of starch added.

These data, together with the results obtained in the production of gelatine-starch gums, make it appear that starch and gelatine when in solution are incompatible. It would appear that, when both gelatine and starch are present in the same solution, a struggle takes place. Each colloid tries to take up its maximum quantity of water. One of these colloids is successful to the detriment of the other, with the results already described. It may be that use can be made of the fact that mixtures of starch and gelatine separate into two more or less distinct layers. Under certain conditions such a result may be desirable, that is, concentrations of gelatine and starch may be selected which will separate into two distinct layers, thus resulting in a product of utility in the confectionery industry.

Note.—The starch used in these experiments was Clinton Refining Company's Clintex and the gelatine was Essex Gelatine Company's EMX.

TABLE IV

SOLUTION A					SOLUTION B				
1000 parts Sugar 153 parts Starch 11 parts Cream of Tartar 2117 parts Water					600 parts Sugar. 400 parts Corn Syrup 42° Bé. 75 parts Gelatine. 340 parts Water.				
Parts Parts		PERCENTAGE COMPOSITION							
A	B	Sugar	Corn Syrup	Starch	Gelatine	Dried at Room Temperature			
100	...	100	..	15.3	...	Very Short			
90	10	96	4	13.7	0.75	Increasingly Soft ↓ MAXIMUM SOFTNESS			
80	20	92	8	12.2	1.5				
70	30	88	12	10.7	2.25				
60	40	84	16	9.1	3.0				
50	50	80	20	7.6	3.75				
40	60	76	24	6.1	4.5	Increasingly soft ↑ Typical			
30	70	72	28	4.6	5.25				
20	80	68	32	3.0	6.0				
10	90	64	36	1.5	6.75				
..	100	60	40	...	7.50				





The dextrose gum batch enters the molding starch with a lower moisture content. A more rapid formation of the outer skin is the result, thus lessening the drying time.

GUMS

A 100% Corn Product

Number Five in the M. C. "Pioneer" Series
on Refined Dextrose--the Candy Industry's
Newest Tool

By JOHN M. KRNO, *Chemical Engineer*
(ADOLPH SCHILDTBERGER, *Practical
Candymaker, Collaborating*)

IT IS seldom that a new basic ingredient is proposed for such a staple confection as the gum drop. Hitherto, the average gum drop batch has consisted of corn syrup, sucrose (cane sugar), a starch, water, an inverting agent, and the flavoring material. Sometimes a product such as agar agar or gum arabic has been used to vary the consistency. And these have been the constituents of the ordinary gum drop from time immemorial.

Lately, the production of pure dextrose on a commercial scale has added another tool to the kit on which the confectioner depends for producing gum goods. To be sure,

the corn syrup which is such an essential ingredient in a gum drop, and which has been used for decades by the confectioner, contains dextrose. Dextrose also is an ingredient of the invert sugar that is produced from the sucrose during the boiling of the batch. So it is not a complete stranger. However, dextrose in its pure state has only been available to the confectioner for the comparatively short time of about ten years. It is only natural for the candymaker to ask what advantages are there, if any, in the use of pure dextrose?

The proportions most commonly employed in boiling a gum drop batch are equal parts by weight of

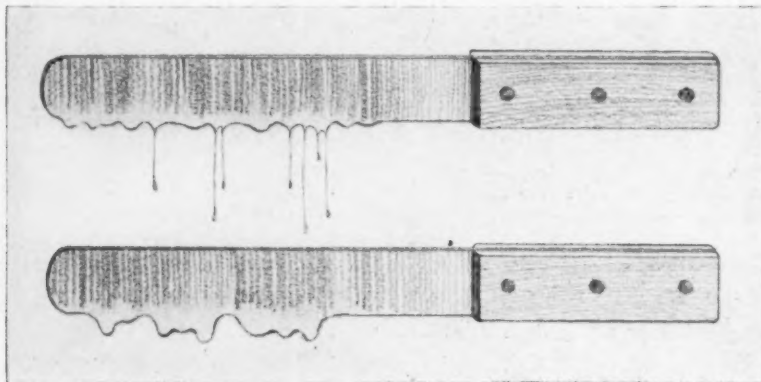
corn syrup and sucrose, together with sufficient water to bring about complete solution. During the boiling, a starch suspension in water is added. The amount of starch varies from 12 to 14 pounds for each 100 pounds of corn syrup and cane sugar. Cream of tartar is added during the boil, and this produces some inversion. The candymaker also believes that the action of the cream of tartar on the starch is beneficial, and is reflected in a more desirable, tender consistency in the finished confection.

The "String" Test

Judgment of the end point to which a batch of gum candy is

GUMS—A 100% CORN PRODUCT

boiled depends on what the candy-maker calls a "string" test. This need not be described minutely, since every operator of a gum kettle is perfectly familiar with it. He would not be able to hold his job a single day if he were not. This string test is essentially a viscosity, or more correctly, a plasticity phenomenon. The commonest method of performing this string test is by means of a spatula. A satisfactory "string test" on a spatula is illustrated by the accompanying diagrams:



The commonest method of performing the "string test" is by means of a spatula. The first illustration shows the "string" before the batch is finished, and the second shows it as it appears when the jelling point has been reached.

The point at which the mass forms in the manner shown in illustration No. 2 is the jelling point of the batch. If the batch is cooked further the resulting gum drops will be tough and hard. The proper judging of this point is the essence of gum drop manufacture.

Of course, the consistency of a gum drop may be controlled by the nature of the starch used. If the starch is of the thick-boiling variety the jelling point or "string" test will be reached more quickly than if the starch is of the thin boiling variety. In reaching it more quickly less water has been evaporated, and as a result the finished gum drop will contain more water. However, the consistency of such a gum drop is not considered as good as that of one made with a thinner boiling starch. Thin-boiling starch tends to produce a shorter and more tender piece.

The gum drop manufacturers use various thin-boiling starches, varying in fluidity all the way from 30 up to as high as 65 fluidity. Each confectioner will extol the virtues

of the particular grade of starch which he is using.

Still another modification in consistency of the gum drop, and also in its moisture content, can be obtained by varying the proportion of corn syrup to sucrose. If more corn syrup is used, the viscosity of the batch is increased, and this in turn affects the point at which the string test is obtained, and results in a variation of the consistency of the final product. Owing to the increased viscosity, such a batch cannot be boiled down as much as a

always desirable, since it is well known that the slower boil has a tendency to produce a more tender piece of goods than a quick boil. But the quicker boil can nevertheless be utilized with satisfaction if the man at the kettle exercises good judgment, and is alert. The quick boil certainly means less development of color.

Lowering the viscosity of a gum batch may result in a saving through increased production when looked at from still another viewpoint. The man at the kettle attempts to boil to the same "string" whether he has dextrose in the batch or not. When dextrose is present, since it lowers the viscosity of the batch, he will boil to a lower moisture content in order to obtain the same "string" test. This means that the batch enters the molding starch with a lower moisture content. The higher initial dry substance in the resulting gum drop permits a quicker formation of the outer, protective skin on the individual piece.

Starch Time Reduced

Thus the pieces can be removed from the molding starch with this excess dehydration, it is done at the kettle where it can be accomplished more quickly, efficiently, and hence much more economically. The use of dextrose in gum work results in a definite increase in production for the same equipment, space, and with practically the same labor. This is all due to the quickened set in the molding starch resulting from the new sugar's lower viscosity.

Calling upon the molding starch for less dehydrating action (if additional output is not required), results in less abuse of the starch. The starch in such a case is re-used and re-handled less. This in itself may result in a further saving.

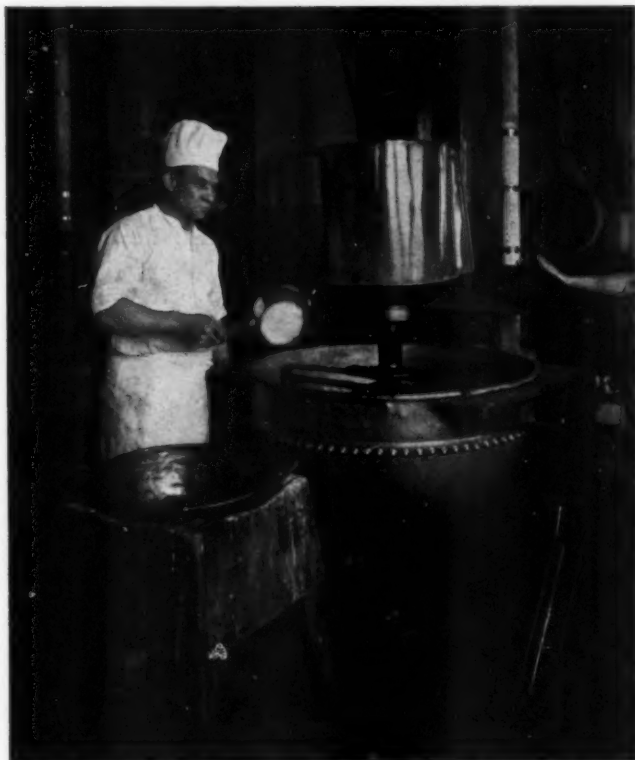
The use of dextrose in gum work allows the candymaker wider latitude as regards variation in consistency. For example, some may prefer to use more than the usual proportion of corn syrup. Increasing the amount of corn syrup increases the viscosity of the batch and in turn affects the boiling and likewise the consistency through its effect on the "string." The mass with the higher corn syrup content may not have the proper flowing qualities to allow of efficient, quick, and clean handling on the depositing machines. This troublesome,

batch with a lower corn syrup content.

Dextrose Speeds Up Boil

Now dextrose has a lower viscosity than cane sugar. The comparative viscosities of these two were given in a previous article in the July 1929 MANUFACTURING CONFECTIONER. This means that if dextrose replaces cane sugar or corn syrup in a batch, the resulting viscosity of the batch will be materially lower. The batch will boil more rapidly, one reason being that because of the lower viscosity, the bubbles of steam escape more quickly since the resistance of the mass to their rise to the surface is lessened. The tendency to foam is less.

A rapid boil, provided it is not too rapid, may be of importance when the question of maximum production arises. Under certain conditions, it has been possible to cut down by 25 per cent the boiling time per batch through the use of dextrose. On the other hand, a great reduction in boiling time is not



The viscosity of the dextrose batch is lower and will, therefore, boil more rapidly. Where maximum production is desirable this consideration becomes an important factor. Also, a quick boil results in less development of color.

excessive viscosity can be counter-balanced by using dextrose.

Higher Densities Possible

Among other things, the shortness or stringiness of a batch is a function having to do with the ration between corn syrup and total solid sugars used. Too much sucrose in proportion to corn syrup may result in crystallization setting in. If dextrose is an ingredient of a gum batch in which sucrose is also present, the percentage of solid sugars (dextrose plus sucrose) used in the mixture can reach as high as 75 per cent, or even a bit higher, and still not be in danger of crystallization over a reasonable length of time. If only sucrose were used, such a high ratio of solid sugars could not be utilized. This gives the candymaker an extremely wide

latitude in the choice of formulas to obtain a particular consistency effect.

Since dextrose is less sweet to begin with, and because of the wider latitude permissible before crystallization threatens, the candymaker can adjust the sweetness of his piece more delicately to suit his customer's tastes. This manipulation of the sweetness permits certain of the more delicate flavors to be brought out more prominently.

The use of dextrose either in whole or in part, increases the digestibility of the candy because dextrose is directly assimilable by the human system. It is the only sugar that is. This is important sales argument in view of the decided popularity of gum drops among children.

Pioneer Candy Manufacturer Dies at Dayton, O.

CHARLES E. UNDERWOOD, candy manufacturer and distributor, died in Dayton, O., April 14, one week after suffering a stroke of paralysis. He was 76 years old and had spent half a century in the candy business. Mr. Underwood with John Mull as his partner opened the first candy factory to operate in Dayton. Later Mr. Mull's interest in the company was purchased by Walter Caverly who in turn transferred it to Mr. Underwood, making him the sole owner. Following two fires and the Dayton flood in 1913 the wholesale confectionery firm, Underwood-Talmadge, was formed, T. E. Talmadge being vice-president of this organization.

Mr. Underwood was a former president of the Ohio State Confectioners' Association and of the Tri-State Confectioners' Association embracing Ohio, Indiana and Michigan. He was considered an authority on the manufacture and sale of confectionery.

Cocoa and Chocolate Association Re-elects Murrie

WILLIAM F. R. MURRIE, president of the Hershey Chocolate Company, Hershey, Pa., was re-elected President of the Association of Cocoa & Chocolate Manufacturers of the United States at the association's annual meeting in New York, April 8. With him were chosen the following officers: Vice-president, Stephen P. Goble, vice-president, Rockwood & Company, Brooklyn; treasurer, Marvin J. Dodd, secretary, Hooton Cocoa Company, Newark. Executive Committee—Ex-officio members, Mr. Murrie and Mr. Goble; Wm. K. Wallbridge, president, Peter Cailler Kohler Swiss Chocolates Company, New York; Maurice Fieux, president, Runkel Bros., Inc., New York; John A. Bachman, president, Bachman Chocolate Mfg. Company, Mount Joy, Pa.; A. H. W. dePerrot, president, Wilbur-Suchard Chocolate Company, Philadelphia; Alex. W. Moffat, vice-president, Walter Baker & Company, Dorchester, Mass.

Clive C. Day, vice-president of the Peter Cailler Kohler Swiss Chocolates Company, was reappointed secretary of the association.

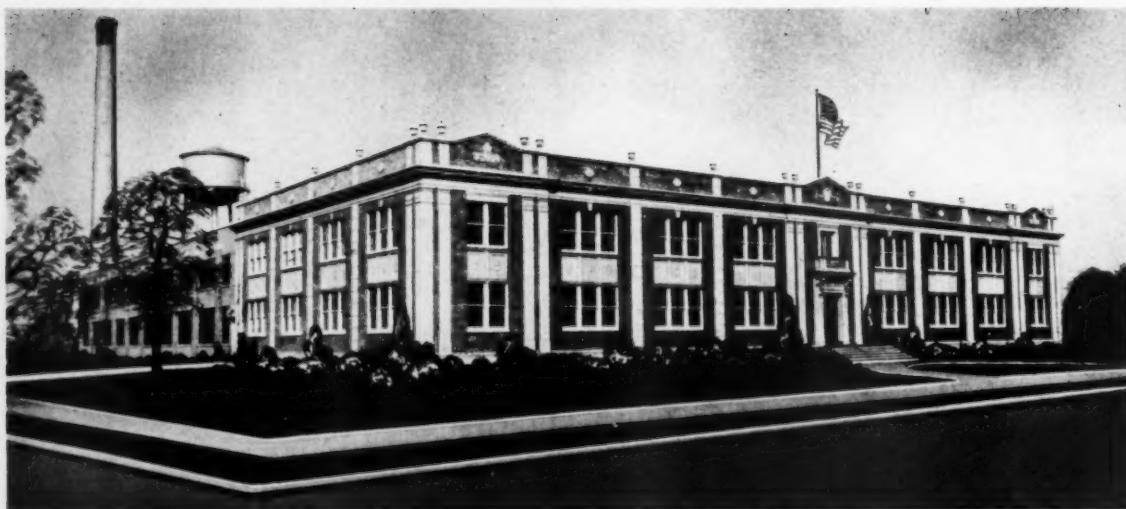


Photo courtesy The American Institute of Laundering.
The American Institute of Laundering, located at Joliet, Ill., stands out as one of the largest and finest examples of education and service ever achieved by a single branch of the industry.

How Shall We Finance Our Candy Institute?

(Part VII of "Let's Build a Real Candy Institute?")

By ORVILLE H. KNEEN

IS there any way to plan, build and grease the buzzing wheels of a Candy Institute, other than or in addition to, the dollar donated by the few who have heretofore carried all of the industry's burdens? A blunt way to put it, but that's about the gist of the whole thing, isn't it?

For ten to fifteen years this Institute idea has grown by leaps and bounds. Institute after Institute has been evolved and financed. Ingenuity of a high order has been devoted to "raising the dough." And it is surprising, when one comes to study the sources of revenue, how many individuals and firms there are who directly or indirectly benefit by a well-organized Institute. Being benefited, why should they not contribute some of their tangible returns toward the Institute's support?

They not only should; they do! The suppliers of materials, machinery, packages, equipment, and so on all aid the Institutes described in

this summary. The public and the government do their part as well. It is an amazing record of how numerous are the sources of ready-money and spendable good-will, when real business men go gunning for them!

20 Colleges Give Ice Cream Courses!

Take our friends in the ice cream fraternity. It seems perfectly plausible to everyone—and it is a good thing for us all—to have dairy courses in some *twenty* colleges and universities, where the science of making frozen sweets is taught. Promising young men are sent by their companies, and they learn the best methods of today, not only technically, but from the standpoints of health, sanitation, nutrition, quantity production, improved flavors, and so on. Research work is done by the Bureau of Dairying, in the Department of Agriculture; also by many state Agricultural experiment stations.

Note that these facilities are pro-

vided by the institutions, and in the end, by the public and the government which makes annual appropriations for land-grant colleges. The student pays the usual fees. Often his company pays most or all of his expenses.

Colleges are keen to cooperate and promote dairying interests of all kinds. A vast amount of technical research on problems involving milk, cream, frozen foods and the like is carried on in these dairying schools. Many of them are complete model plants which process dairy products and sell them to the public, *thus becoming partially or almost completely self-supporting*.

The ice cream industry, therefore, has no need at this time for a centralized research institute. It does have its thoroughly successful International Association of Ice Cream Manufacturers; its Dairy and Ice Cream Machinery and Supplies Association; and its National Dairy Council. They all work hand in hand. The first-named compiles

statistics of all kinds, on production, weather, business, employment, forecasts of consumption, technical research done in various dairy schools, etc.

Help From the Trade Journals

Ice cream makers establish their own contacts with these laboratories. They interchange information through trade journals, the Journal of Dairy Science, dairy bulletins, the dairy division of the Department of Agriculture, and similar mediums.

They are the country's outstanding example of typing up an industry handling food products with public institutions, to the resulting benefit of all. And yet the candy industry, utilizing a far greater variety of foods in producing a food product, has yet to establish the *first* candy making course, let alone a school devoted to the scientific study and application of sweet-goods manufacture!

Watch the Bakers Raise the Dough!

But the solid-gold medal for past masters in the ancient and honorable art of *raising the dough* must naturally be awarded to the bakers. They have combed the highways and byways where the cartwheels roll, and started a lot of them rolling toward the institute that has brought better bakery goods into nationwide prominence during the past few years.

According to a leader whom we interviewed, the Bakers' Institute has *nine* main sources of income. All of its non-profit work is carried on in its own building, in Chicago—a model and completely equipped plant.

First, there is the allotment made by the American Bakers' Association, which maintains a close supervision over the Institute. Dues of the Association are \$25.00 per oven per year for each member. An ordi-

nary oven turns out about 400 pounds of bread per hour. Large plants rate about 20 ovens, thus paying annual dues of \$500.

Students in the school of baking pay tuition which in a year amounts to about \$27,000. This pays the overhead expenses. The dull 16-weeks' course in Technology and Practice of Baking is limited to 36 students, and about 100 per year take the course. Tuition is \$300, and since 1922 has given laboratory and bakery instruction in modern production methods. The two annual classes in Fundamentals of Baking, for which tuition is \$150, are for beginners, allied tradesmen and bakery employes.

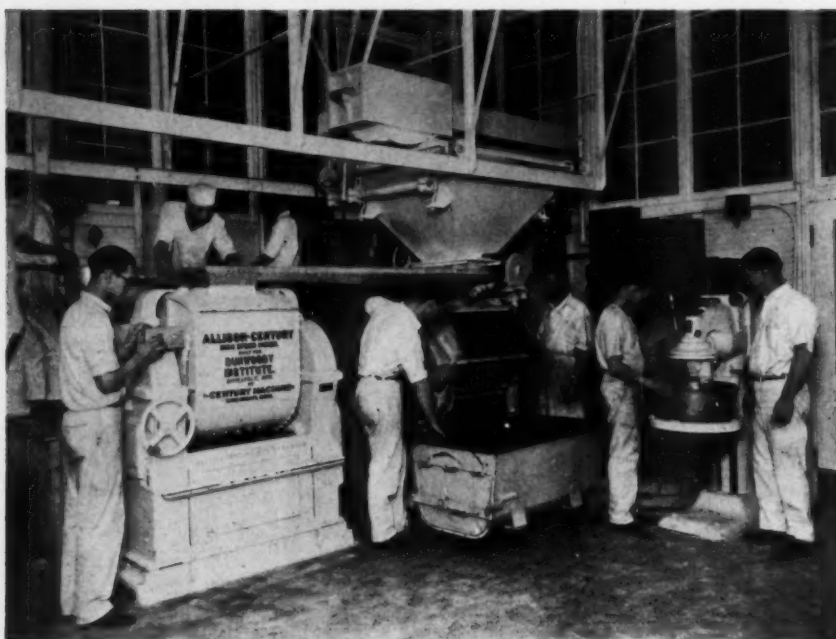
Fellowships Are Nice Too

Then there are paid fellowships, endowed by large firms, flour mills, etc. These each maintain a man on the Institute's staff, who gives at least half his time to some problem assigned by the donor, *and the rest*



A bird's-eye view of the Laundering Institute's commercial laundering unit. This gives a fair idea of what can be done when such an enterprise is properly undertaken and efficiently managed.

HOW SHALL WE FINANCE CANDY INSTITUTE?



of his time to teaching students at the Institute.

The original endowment fund, of which nearly \$400,000 was raised some years ago, in subscriptions of \$3,000 or more in some cases, also aids the Institute.

The Association owns and supports the real estate, buildings and land of the Institute, thus aiding its overhead expense.

There is a large Library Fund, supporting a trained librarian. The Louis Livingston Library is the most complete of its kind, with books in various languages, and available to the industry, to allied tradesmen, to educational institutions, the press and the public.

A Special Fund has been donated by a well-known baker for nutritional education. Facts on nutritive value of foods are established, certification of recognized dietitians obtained, and literature prepared for the industry, public schools, clubs, etc.

Supplies and Equipment Come Cheap

Manufacturers loan the equipment, machinery, ovens, etc., and keep the school fully equipped. Flour, ingredients and all other materials are gladly donated by the respective suppliers for the sake of the publicity thus obtained.

The institute does not compete with other laboratories, but in its converted model brewery, now a

model bakery, it conducts research and tests of many kinds. An interesting activity is its Bread Scoring service, whereby samples sent by any baker are graded. Thus the baker is enabled to test the skill of his bakers, the operation of his machinery, and the excellence of his materials. What a boon such a service might be to candy makers!

Despite all these sources of cash, the Institute usually exceeds its income. Always there are new things to be done, such as the Advanced Production and Sales Promotion courses begun in 1929. But when a deficit occurs, there are always leaders ready to make it up some way. And since the Institute is largely self-supporting, the financial strain is not great, and is far outweighed by the demonstrated value of the Institute to those individuals who are making best use of it.

The baked-goods people have another institution which since 1915 has trained over 3,000 bakers—the Dunwoody Industrial Institute of Minneapolis. Endowed with some 5½ million dollars, a million of which is applied to the Baking Department, this institute gives a wide variety of instruction for practical bakers, shop foremen, sweet goods bakers, cake decorators and milling chemists.

Local Residents Crash the Gate

To residents of Minnesota, these courses are practically free; outsid-



Several scenes from the Baking Department of the Dunwoody Industrial Institute of Minneapolis are shown above. On the extreme left the dough room squad is on duty. These men are on the job at 5 a. m. Upon

ers pay \$25.00 per month and come from all over the world. There is a small shop and materials fee in addition. The equipment is valued at over \$80,000.

There are courses given at Dunwoody for beginners, journeymen and specialists, in all-day school, one to six months' full time; part-time school, and evening school. Julius Fleischmann donated an annual \$1,800 fellowship for promising students who devoted half their time to teaching and half to research; this was continued by the Fleischmann Company after his death.

Aid in tangible and other ways has been given by makers of bake shop machinery and equipment, likewise of materials and laboratory equipment; milling concerns; publishers of baking and milling journals; and by many individuals and companies. The retail bakers of Minneapolis have given hearty support. That is the acid-test of an Institute!

The Glass Container Association comprises over 90 per cent of all firms engaged in extending the use of glass containers, caps, closures,



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completion of the course they are practical and thoroughly trained bakers in every respect. Directly above is a view of the bake shop equipped with two complete modern units, while on the extreme right is shown a corner of the bread production department.



Photos courtesy Dunwoody Institute.

etc. The Association does highly valuable work, not merely for *makers* of glass containers and allied products, but for *users* as well. Among the many who support its work are the users in four fields: foods, beverages, dairy products (mostly milk and cheese) and pharmaceutical and toilet products.

Others who support its work are the producers of raw materials such as sand, soda ash, lime coloring, decolorizing materials, etc. Also the equipment and machinery makers catering to the glass container manufacturers. Packers who use glassware, also contribute to the Association's work.

Container Association Gets Results

There is a Standardization and Simplification Department, which has cut sizes from 47 to 7, made caps fit the containers, etc. Another section is discovering and developing new and increased uses of glassware, such as the packing of hard candies. In one year over *fifty* new packers of coffee were sold on glass containers!

At least thirty problems in re-

search (largely concerned with packing problems), bacterial and chemical research, etc., are always going on. A unique publication, *The Glass Container*, is mailed free—not to the *makers* of glassware—but to the *users*. Packers utilizing glass, glass and tin, or tin, receive the magazine, which deals entirely with their problems. It is supported by firms who pay for their ads in bottles and glassware, stopper and metal caps, machinery, scale packaging, filling machines, shipping containers, cleaning compounds, conveyors and handling equipment, oiled paper, and so on.

Note how many allied industries there are when one searches for them! All of the above lines were glad to pay for the privilege of telling their stories to buyers of glass containers. In one issue recently (which, by the way, carried a feature article by the editor of *THE MANUFACTURING CONFECTIONER* on glass containers for candies), there were 37 advertisers who used 27 of the 52 pages including covers.

Members of the Glass Container Association pay annual dues of one-tenth of 1 per cent of net sales in dollars computed on the basis of the preceding year. Even the small company is entitled to service, laboratory, and data, which goes out to all members. Is it any wonder that the use of glass is increasing largely?

What a Clean-up!

Ever hear of the Cleanliness Institute? It started cleaning up in June, 1927, when the Association of American Soap and Glycerine producers, Inc., after a hearty dinner, raised over half a million dollars which soap makers have since liberally increased.

It has a school department with lecturers and others, who reach 25 million school children with the newest ideas on keeping clean. It has prepared several books, sold by the thousand at 15 to 25 cents a copy. Its "Cleanliness Journal" and public information department issue useful material to the press, to magazines, for use over the radio, lectures, etc. Clean-up campaigns and health weeks are organized. Posters are prepared for industrial plants. A Research Library collects books and information on sanitation, health, home economics, public welfare, etc., and disseminates it to social service workers, teachers, etc. Advice is given on health problems.

Last fall a new type of Institute was organized at Lawrence College, Wisconsin. The Institute of Paper Chemistry, a graduate school for training chemists for the pulp and paper industry. This Institute is financed by 90 per cent of all the paper mills in Wisconsin. It is probably the first time an industry has begun such work in an estab-

HOW SHALL WE FINANCE CANDY INSTITUTE?

lished educational institution, and President Hoover endorsed it, saying:

"I am glad to know of the organization of the Institute of Paper Chemistry at Lawrence College. The importance of sound technical processes based upon scientific research is becoming ever more important to American industry. . . . I hope that the success of this co-operative effort will point the way to other fruitful enterprises of like character."

Get that word—"other"? That means you, Mr. Candyman.

Hats Off to Your Laundryman!

One of the most successful institutes in the country is that of the American Institute of Laundering. Some ten years ago the Laundry-owners' National Association had financed a chair at Mellon Institute of Industrial Research. It proved "fruitful beyond expectations," one banker wrote, for "It taught the laundryowners the value of an impersonal judicial authority in materials and equipment, wholly divorced from the entanglements of established business relationships."

The description of the meeting in 1920, when the Institute was begun, shows what can be done in raising money in a hurry. A gentleman felicitously named Mr. Fee was selected to exhort the faithful to "come across." One-half of one per cent of the gross annual business was solicited from each state. Individuals also subscribed. Some state delegations guaranteed their quotas at once. Subscriptions of \$5,000 down to \$1,000 and \$500 were numerous. \$300,000 was raised

in a short time. Two model commercial laundries were bought and used to pioneer in new methods, in which the Institute has been highly successful.

The Institute is controlled by the L. N. A. which holds the ten shares of voting stock and elects seven directors, one of whom must be the vice-president and general manager of L. N. A. *Preferred stockholders are entitled to cumulative dividends at 6 per cent when declared. Subscribers, in the event of liquidation, are entitled to par value of their stock plus all accrued dividends, ahead of the holder of common stock (the L. N. A.).*

All of these Institutes, and many others, were begun years ago and have never ceased to grow and expand. They have produced the results expected of them, and more. The Candy Industry is one of the few major industries in this country today that has no institute of any kind. Why?

Where There's a Will, There's a Way!

Now, where is the support for a Candy Institute to come from? First, there is a Carbohydrate Laboratory in the Department of Agriculture—how many know about it? It receives about \$10,000 a year for sugar research. The amount expended by government agencies on research for other lines is far more than that. It looks as though it's high time for the Candy folk to step up like Oliver Twist, and ask for MORE!

There are literally innumerable supply trades allied to the Candy

Industry, from raw material suppliers to makers of machinery, packages, equipment, etc. There is a well organized sugar-beet industry, to support and encourage candy courses in western institutions.

There are raisers of peanuts, almonds, walnuts, corn products, and many other candy materials who are certainly interested in a greater use of their products. There are large numbers of firms and individuals importing such ingredients, from other lands, who can and will support an impartial, scientific institute devoted to solving candy-making problems.

Those who sell *anything* used in candy making, from molasses and butter and milk to sugar and cocoanut and puffed rice, could do better by themselves and their customers if their salesmen were well trained in candy making. Every year the Salesmen's Club of the Dairy and Ice Cream Supplies Association has its salesmen's course at the Pennsylvania State College. The Sixth Course, last year, had students from a refrigerating company in Japan; creamery package plants; gelatine companies; a fruit juice company; extract makers, creameries, etc.

There are new sugars to be studied; there will be found those who are interested and willing to finance such research. There are innumerable studies in nutrition to be made. The use of candy as a stimulant, and as a carrier of essential vitamins and minerals, can be enormously extended. The Candy Institute is the open shaft into a goldmine scarcely touched. Isn't it time we started digging?

Changes at Maillard's.

Henry Maillard, Inc., have just announced the appointment of Mr. A. W. McDonald as their Midwest representative having headquarters at Chicago. Mr. McDonald succeeds Mr. A. R. Moulin who covered this territory for many years.

Mr. Moulin was only recently selected to manage the Maillard Restaurant and Candy Shop located at Michigan avenue and Jackson boulevard, Chicago.

Mitchell with Highland

The Highland Chocolate Company has just announced that Mr. Earl T. Mitchell will join their organization on or about May 1st as sales representative in the New England territory.

Fat Determination Made Easy

Schwarz Laboratories, Inc., will have Booth No. 38 at the Convention, and will be represented by Mr. Robert Schwarz and a member of the Research Laboratory staff.

Mr. Schwarz will be there to discuss

problems of chemistry and methods of analyses with members of the industry, and to demonstrate the Lipeometer, an instrument developed for the rapid determination of vegetable oils and fats.

Chicago Office for Maryland Air Conditioning

The Maryland Air Conditioning Corporation announces the opening of a Chicago office at 205 West Wacker Drive. This office is in charge of Mr. Walter T. Ray.

The Physiological Value of Sweets With Lecithin

By DR. BRUNO REWALD



GENERALLY, when we speak of "fats" we mean those fats which are supplied to us by nature in such abundant quantities. We are familiar with all sorts of fats—animals fats and vegetable fats. Their nutritive value has been known for thousands of years and all races, whether they are still at the lowest rung of the ladder of civilization or whether they have climbed to the top, must consume fat daily. Usually we do this unknown to ourselves, for all food, with but few exceptions involving highly refined products such as sugar, starch, etc., contain fat in larger or smaller quantities. Thus, whether we partake of fish or meat, or eat vegetables or fruit, we are always consuming a certain quantity of fat. Even in our daily bread the fat content can be found.

But we also frequently consume fat in an almost pure condition—butter, oleo-margarine, compound lard, olive oil, etc. Who knows, however, that all of these fats contain in greater or less degree a special or several special substances called "lecithin"? How many persons are aware that, unknown to themselves, they are constantly feeding to their bodies *phosphorus* in organic form, or realize that this supply is absolutely essential for the reason that practically all cells of the animal, and consequently also of the human body, contain lecithin? What are these substances? Where are they usually found? What is their importance to life? And how can we obtain them?

Phosphorus to Build Bone

The name "lipoids," which we hear frequently in connection with lecithin, indicates that we are concerned here with a fat-like substance, and as a matter of fact, in nature we always find these "lipoids" accompanied by fats. Another designation of lecithin which is equally well known is "phosphatids," the latter indicating its chemical composition. Consequently, these lecithin substances are fats whose molecules contain phosphorus. We also find identified with these substances another basic constituent whose scientific name is "choline," also called "colamin."

The distribution of these phosphatids is very widespread, even though normally only small quantities accompany the fats. But there are several places where we find a remarkable accumulation of phosphatids. The brain is a veritable storehouse for "lipoids." The solid matter of the brain consists in the greater part of such substances. This is also true of the spinal cord.

Accordingly, lecithin must play a dominant role in the structure of the nerves and of the entire cerebral system. But in still another place a preponderance of the phosphatids is of particular value. The generative organs are extremely rich in lecithin. A chicken egg, or rather the yolk, in its fresh substance, contains not less than 10% of lecithin. This is where it was first discovered. The very name "lecithin" is derived from the Greek "lekitos" or egg yolk. We also find phosphatids in substantial quantities in other

eggs, as for example, the roe of fish, caviar, and also in sperma, etc.

The specific duty of the lipoids has not as yet been definitely ascertained, although their importance in the scheme of things has been established beyond any doubt. Several of the physical properties possessed by these fat-like substances (properties very different from those possessed by fats) have attracted attention. Everyone knows that from a physical standpoint, fat and water are two entirely different substances, almost as though they belonged to different worlds. They separate immediately upon being mixed and this very property is made use of in order to separate fat.

A Fat-Soluble Colloid

But the same is not true of lecithin. It is completely *soluble* in fat, and in water can easily be made to swell, so that through the use of lecithin, emulsions of water and fats can be prepared which otherwise could only be made with great difficulty. Such colloidal emulsions are also present in the body, for all cells possess a colloidal content, which apparently is conditioned in no small degree upon the presence of lecithin and allied groups.

A substance so widely distributed in the organism is, of course, being constantly consumed and must be replaced accordingly. Hence the body must take in or develop lecithin if it is not to suffer throughout life. We know today as a result of careful and thorough physiological tests that lecithin, whether
(Continued on page 73.)



To equip such a laboratory and employ a competent chemist to operate it would cost more than many manufacturers would care to appropriate.

A Chemist-less Laboratory on the Installment Plan

By NORMAN W. KEMPF

AS COMPETITION becomes keener and the demands of the consuming public more exacting, the advantages of exercising laboratory control over manufacturing operations becomes increasingly apparent. Uniformity of finished goods, freedom from blemishes, protection of raw materials, reduction of waste and needless operations—so far, no one has suggested a better way to attain these ends than by employing some measure of laboratory supervision.

On the face of it, it would seem that this places an undue burden upon the small manufacturer with limited capital. Does it not put at a distinct advantage over him the large manufacturer whose business is big enough to justify and pay for a whole corps of chemists in a fully equipped analytical laboratory?

Yet, often the smaller manufacturer is the more consistent believer in quality. Often his need of a control service is more acute than that of the manufacturer who has built up a large business on volume and price. How many manufacturers do you know who feel they can afford to lay out \$5,000 to equip a laboratory and another \$5,000 or \$10,000 a year to employ a graduate chemist—however much they may appreciate the need for one?

To employ a part-time chemist is easier said than done. Controls over raw materials and factory processes must be established *on the ground*. Nor can you pick a part-time chemist off the first bush you see. It is obvious that the part-time chemist is not the solution to the small manufacturer's laboratory control problem.

So where are the hundreds of smaller manufacturers going to get off, toiling incessantly to make ends meet against the odds of substantial capital and well-defined research programs? Must they fall by the wayside through lack of intelligent, scientific cooperation? *We think not.*

The Advantage of Being Small

In many instances the smaller manufacturer can actually benefit *more* by new methods of manufacture and control than the larger. He can turn around more quickly than his bigger brother—has less at stake in making a change and usually less to change. Those who have instituted such controls as are suggested here have been put in the position where their savings in costs and the broader selling appeal of the result-

ing product have more than counterbalanced the handicap of smaller purchasing power—which in the final analysis is the basic reason for the existence of big business.

Ordinarily, the only controls required are the relatively simple ones. They involve the systematic routine testing of a few raw materials, or of the semi-processed materials resulting from a limited number of operations. And here is what is not generally known. Very often this work can be done by the ordinary man about the factory—provided the method selected for him is fairly foolproof and he is instructed and occasionally supervised by outside chemists with experience in this particular field.

At least one food service laboratory is planning to specialize in installing and supervising these simpler "chemistless" control systems for the benefit of candy and chocolate manufacturers who want to break into laboratory work gradually, or who feel that it is desirable to make each investment in laboratory equipment demonstrate its value to them in dollars and cents before committing themselves to further expenditure.

Laymen Handle Routine Testing

Among the more important variables in ordinary factory practice are moisture content, fat content and viscosity. Any half-way intelligent factory employee can be taught in a very short time to operate the simplified testing procedures which have been worked out for these factors. No particular skill, book knowledge or previous scientific training are required. This may sound paradoxical to those of you accustomed to visualizing a laboratory as a storehouse of smelly bottles and apparatus, with a bearded professor of chemistry wigwagging the flasks.

Yet, as a matter of fact, such chemist-less controls as these have already been established and have been operating successfully in other industries for a number of years. There is nothing theoretical or experimental about them. You pay a small sum to a reputable manufacturer for a standardized, money-back-guaranteed piece of laboratory equipment; the supervising chemists instruct your man in what to do and how to do it. They collaborate with you in devising an adequate standard for a given material or process.

They train the operator in his leisure time. They interpret doubtful results for you and periodically check the operator to make sure he is performing the work properly.

A supervisory laboratory with the requisite training in the candy field would install the complete service for a fixed sum and maintain the service as long as you wanted them to for a small monthly fee. Such a service would cover:

1. Determining the type and character of controls necessary;
2. Setting up standards for judging specific candies, candy materials and processes. (This involves a fairly comprehensive knowledge of the requirements of the confectionery industry);
3. Selecting fool-proof apparatus suitable for simplified testing by a lay operator;
4. Furnishing directions for and supervising the proper installation and operation of the apparatus;
5. Training the employee who is to make the tests;
6. Installing a simple record system and arranging for periodic reports to be made by the operator to the factory superintendent and to the supervisory control laboratory;
7. Interpreting the results obtained and recommending such changes in plant procedure as the reports may show to be necessary or desirable;
8. Cross-checking the operator to insure accuracy;
9. Employing a follow-up on the operator to insure regularity in testing.

Start Your Lab. on Installment Plan!

The man who starts off with a moisture-testing apparatus for his starch and later on adds a pH control for his marshmallow batches is

Candy laboratories, extensively equipped, are not always necessary according to Mr. Kempf, the author of this article. He describes briefly, some of the thoroughly reliable, simplified control systems now available to confectionery manufacturers. Such systems afford efficient control of raw materials and factory processes at a surprisingly moderate cost.

in a fair way to acquiring a complete candy laboratory on the installment plan.

It is in the nature of things that one must start small and grow. Here is an opportunity for wide-awake manufacturers to install these needed controls one by one as building blocks in a candy laboratory program.

With outside supervision of the kind described, you will find it both possible and profitable to operate a "chemist-less" candy laboratory. If you look around you, you may find your factory nurse with enough spare time on her hands to perform these simple tests. Nurses are well fitted by training and temperament to do the sort of testing required by the simplified apparatus now available, and frequently make the best operators.

Where no nurse is available, or where she is too busy attending to other work, it is always possible to find some wide-awake young fellow who will take an interest in work of this character—possibly the boss's son if he happens to be studying chemistry at school—and handle it to the satisfaction and profit of everybody concerned.

The following specific data will take the discussion out of the realm of generalities and apply it directly to your factory.

The simplest form of chemist-less laboratory is a simplified moisture control unit. Moisture content can be determined in several ways. The obvious way is to weigh a sample of the product to be tested, dry it to constant weight in an oven of some sort which is maintained at or near 212° F., and re-weigh. However simple this may appear, this procedure is not at all suitable for operation by a layman. It requires accurate weighing of small samples, patience and time in arriving at the constant weight, and a knowledge of the correct temperatures necessary to drive out all the water from different materials.

Half a "Century" for a Moisture Tester!

The method of Bidwell & Sterling (Journal of Industrial & Engineering Chemistry, Feb. 1925, p 147) obviates many of these difficulties. In this simplified procedure, the water is distilled from a comparatively large sample with an immiscible liquid of higher boiling point,

A CHEMIST-LESS LABORATORY

The MacMichael Viscosimeter is a practical instrument for determining the viscosities of a wide range of substances. Quick, accurate results are readily obtainable.

such as toluol or xylol, and collected in a graduated receiving vessel where its volume can be directly read. The apparatus itself can be purchased for around \$50.

Great accuracy in weighing is not required because of the large size of the sample (50-100 grams), and anyone of moderate intelligence can be taught to read the volume of water in the receptacle provided for the purpose.

Now, the advantages of a rapid moisture test in the factory are many. Incoming nutmeats should always be checked for moisture content for two reasons: first, because of the danger that they will become mouldy if the moisture is too high; and second, for the very practical reason that water is high-priced at the current selling prices of nutmeats. The moisture in pecans, for example, should be kept somewhere between 2 and 3 per cent. Goods up around 4-4½ per cent are almost certain to become mouldy at the first touch of warm weather. On the other hand, if their moisture content is too low, excessive breakage will result from even moderate handling. The method is also applicable to the testing of fresh and used starches; milk powders, marzipan pastes, sugar syrups, chocolate, hard candies and many other candies and candy raw materials whose moisture content is an important



factor in their use or keeping quality.

Another very practical application of the "chemist-less" laboratory is for fat or cocoa butter control in chocolate departments, or for butter presses, users of milk products such as caramel manufacturers, etc.

The fluidity of a chocolate coating depends upon three factors—fat content, moisture content, and the degree to which it has been ground. Cocoa beans are a product of nature and vary considerably in fat content. To produce a coating with a uniform fat content, one must know the fat content of the particular lots of beans he is working with.

Fat Control Pays Its Way

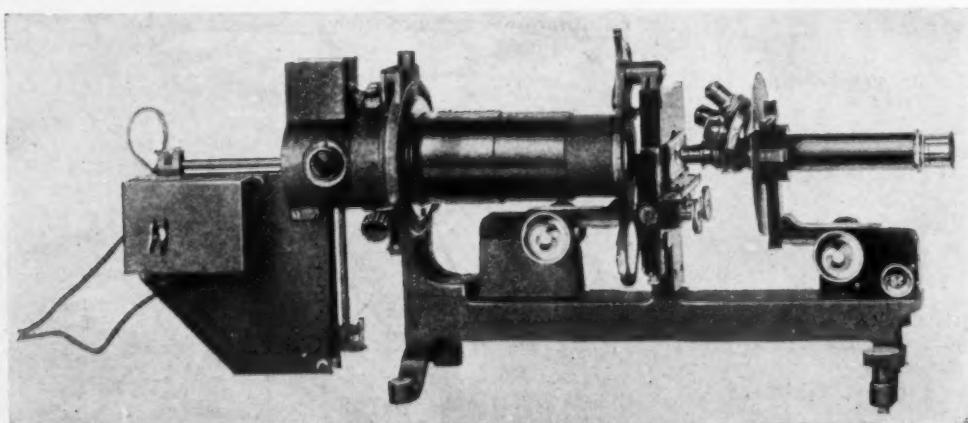
The butter presser who presses out a definite weight of butter from his beans, frequently goes astray and leaves more fat in his cocoa than is necessary, usually because the beans happen to contain more fat than he has figured on and he is not in a position to take advantage of the fact. In such cases, a rapid method of testing each lot of beans entering the plant is practically indispensable, and there are several methods which can be satisfactorily operated by normally intelligent factory employees. Three of these rapid fat methods are:

1. Extraction with a volatile solvent; evaporating the solvent and weighing the fat;
2. Decomposition with a salt solution followed by centrifuging;
3. Extraction of the fat with a non-volatile solvent, followed by a determination of the specific gravity of the resulting filtered solution.

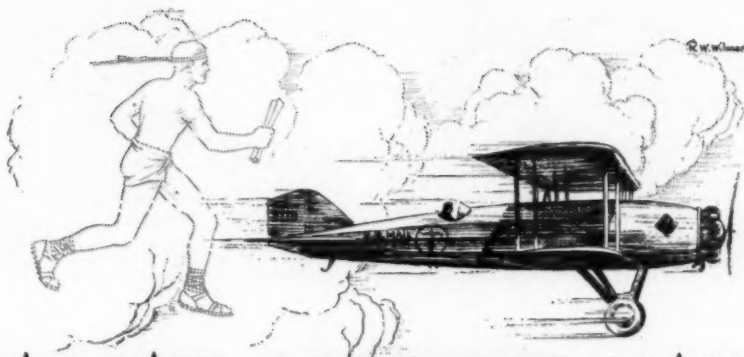
The first, while probably the most accurate, has the disadvantage of bringing into the plant an inflammable solvent, and also involves a very high first cost for speed apparatus. The second, while the cheapest to install, is also the least accurate. It involves the accurate weighing of small samples, an operation which it is difficult to train a layman to do quickly and well. The third method is moderate in cost and reasonably accurate when carefully done.

In carrying out this method, a large sample of chocolate is weighed into a tarred metal beaker; the sol-

(Continued on page 76)



Of ever increasing importance is the study of the microscopical structure of raw and finished materials by direct projection. The Micro-Projector made by Bausch & Lomb is a compact, easily manipulated and highly efficient instrument for such purposes.



AS WE SORT THE MAIL

Questions addressed to this department will be answered by us from month to month. Readers are invited to make this a forum for informal discussion of subjects of general interest to the candy industry.—The Editor.

As a subscriber to your magazine we take the liberty of asking if you are able to provide us with necessary information relative to the manufacturing of chocolate coating for ice-cream (Eskimo-Pie, Ice-Cream-Bricks, etc.)

At present we manufacture such chocolate coating for ice-cream, but we should like to have a better knowledge of the American chocolates for this purpose as well as a first-class recipe. The difficulty with our chocolate coating is that it covers the ice-cream centers too thick, unless we heat the chocolate to a higher degree about 44-48° C. (111-118½° F.). Of course, this does not affect the chocolate, but these high temperatures cause the ice-cream to melt and water drops into the chocolate-mass, which as you know, causes the chocolate to be far too thick and tough. We have tried to make the coating chocolate somewhat thinner, but it is very difficult to temper mass containing more than 50% fat. To have the right chocolate for ice-cream it should not be necessary to heat higher than 42° C. (107-75° F.) and the chocolate must dry on the ice-cream bricks within 14-15 seconds as a very thin film.

We would be very glad if you yourselves have had experience

with the matter in question, or could get us into connection with specialists who could render us the service needed.

F. T. (Denmark).

Unfortunately, your problem is not one which can be solved by a simple question and answer.

We might suggest to you several formulas and methods of manufacture which you might employ to overcome your present difficulties but the nature of your problem is such that a more extended consideration of the conditions under which you are working would be desirable.

We have referred your problem to one of the members of our staff, who is authority on the manufacture of ice cream "pies."

N. B.—Meanwhile we call your attention to the possibility of thinning your cocoa by substituting refined corn sugar (dextrose) for a portion of your sugar solids. It may also be interesting to you to know that lecithin now derived commercially from the soya bean can be used in small amounts to achieve the same result. You might also try a combination of both methods.

—MC—

We would like to take this opportunity of complimenting you on one or two particularly interesting features of your magazine,

that is, the "Clinic". The April issue was especially interesting to us as we are a manufacturing retailer. There are one or two terms, however, that are used which we do not quite understand and would like further explanation. 1st, Molasses Sponge; 2nd, Molasses Plantation; 3rd, Belmont Marshmallow, Belmont Vanilla Butter Cream and Belmont Coated Vanilla Cream. (We do not understand the meaning of the word "Belmont").

Last but not least, we believe that your articles on Refined Dextrose will be of great practical value to us. The writer will never forget your first articles on sugars, explaining very much in detail the making and using of Invert Sugar and consequently look forward to comparable information about corn sugar.

R. A. D. (Indianapolis).

Molasses Sponge: This is a molasses flavored batch cooked to 310°-320° poured on cooling slab. When partly cooled, this batch is pulled on a hook. A piece of about 5 pounds is spread out flat and put around a piece of pipe about 1½ inches in diameter. It is taken from the end of the pipe and doubled about ten times. Then spin out any desired size; when cold, cut size to suit.

Formula:

10 lb. sugar
2 lb. corn syrup
½ pt. any good molasses
Cook batch to 310°-320° F.
When batch is about 300°, add molasses slowly.

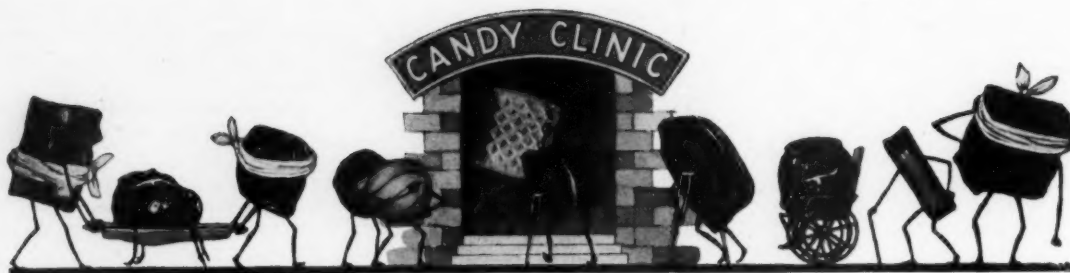
Molasses Plantation:

10 lb. sugar
10 lb. corn syrup
5 lb. good molasses
2½ lb. butter
Salt to suit. Use a little lemon flavor.

Put sugar, molasses, corn syrup and butter in kettle with 2 quarts of water. Cook same as caramel. Pull on hook, add flavor, spin out and cut any size desired.

Belmont Coating: By Belmont Coating we mean any chocolate coating which has finely chopped nuts in it. Chopped nuts are added to the coating and handled the same as any other chocolate coating.

(Continued on page 57.)



The Candy Clinic is conducted by one of the most experienced superintendents in the candy industry. Each month he picks up at random a number of samples of representative candies. This month it is Easter goods; next month it will be high grade assorted chocolates. Each sample represents a bone-fide purchase in the retail market, so that any one of these samples may be yours.

This series of frank criticisms on well-known, branded candies, together with the practical "prescriptions" of our clinical expert, are exclusive features of the M. C.

Easter Goods

Code 5A 30

Fruit and Nut Egg—4 Ozs.—10c

(Made in Pittsburgh, Pa.)

(Purchased from a news stand in Boston, Mass.)

Appearance of Package: This egg is put up in a tin foil wrapper similar to a 10c bar. The piece is shaped like a half egg. The wrapper is of white foil, printed in blue, white and yellow.

Condition of Egg: Good.

Chocolate Coating: Dark, sweet.

Gloss: Good.

Dipping: Good.

Taste: Fair.

Center: Fondant, short and off color. Flavor, fair.

Fruit and Nuts: Of good quality. Very few nuts used.

Workmanship: Center not properly made.

Remarks: This bar at 10c is not quite up to standard.

Code 5B 30

Rabbit in Chocolate Basket—29c —No weight on box

(Purchased in a drug store in Brooklyn, N. Y.)

Appearance of Package: Fair.

Box: Folding; 5½"x4"x3½". Plain white board used, printing in light lavender and yellow. No name or address.

Package contained basket made of chocolate filled with green paper grass, running rabbit and small panned eggs.

Chocolate: Milk, fair.

Gloss: Good.

Moulding: Good.

Taste: Fair.

Panned Eggs: Fair.

Remarks: This package and two others were purchased in a retail drug store. The clerk did not know from whom they were bought. At the price of 29c this is a very cheap Easter novelty. The fact that no name or address appeared on box is serious.

Code 5C 30

Fruit and Nut Egg—½ Lb.—30c

(Purchased in a retail drug store in Boston, Mass.)

Appearance of Package: Neatly put up and seasonable. White Cellophane wrapper used with two seals.

Box: Light blue with Easter scene on cover and sides; name printed in dark blue.

Appearance of Box on Opening: Good. Yellow cut tissue used for padding. Egg wrapped in heavy wax paper.

Condition of Egg: Good.

Chocolate Coating: Dark, bittersweet.

Flavor: Good.

Dipping: Good.

Gloss: Good.

Center: White cream with a generous amount of nuts and fruit.

Texture of Cream: Good.

Flavor of Cream: Good.

Nuts and Fruits: Of good quality and taste.

Workmanship: Good.

Remarks: This egg is one of the best examined this season and of very good quality.

Code 5D 30

Standing Rabbit—9-10 Ozs.—10c

(Made in Germany.)

(Purchased in a chain drug store in Boston, Mass.)

Appearance of Piece: Perfect reproduction of standing rabbit.

Wrapper: Foil, printed in colors.

Moulding: Very good.

Chocolate: Milk.

Color: Good.

Gloss: Good.

Taste: Good.

Center: None. This piece is hollow.

Workmanship: Very good.

Remarks: See remarks under Code 5F 30.

Code 5E 30

Sitting Rabbit—27 Gramme—15c

(Made in Germany.)

(Purchased in a chain drug store in Boston, Mass.)

Appearance of Piece: Very good.

Wrapper: Foil printed in colors.

Moulding: Perfect.

Chocolate: Milk.

Color: Good.

Gloss: Good.

Taste: Good.

Center: None. This piece is hollow.

Workmanship: Very good.

Remarks: See remarks under Code 5F 30.

Code 5F 30

Chocolate Foiled Egg—21 Gramme —5c

(Made in Germany.)

(Purchased in a chain drug store in Boston, Mass.)

THE MANUFACTURING CONFECTIONER

Appearance of Egg: Good. Neatly foiled and well moulded.

Coating: Milk.

Color: Good.

Gloss: Good.

Taste: Good.

Center: Contained a semi-liquid cream with a mild cherry flavor. About 50% of the center was in a cordial condition, making a novel and good eating piece of candy.

Workmanship: Very good.

Remarks: This piece of goods cannot be made except with a so-called "shell machine." This machine is used in Germany and I understand two of them are being built for a large American manufacturer. How this kind of merchandise can be made in Germany, import duty paid, and then sold here for 5c retail, is a thing that requires figuring with a sharp pencil. The labor alone of putting on a printed wrapper is a costly item for such an inexpensive piece.

Code 5G 30

Chocolate Green Frog—27 Gramme—10c

(Made in Germany.)

(Purchased in a chain drug store in Boston, Mass.)

Appearance of Piece: Very good. Green foil wrapper used, printed to represent a frog. Colors, features, etc., were very well reproduced.

Moulding: Very good. This piece, in fact, all pieces made by this company are moulded from very fine moulds. The moulding is the best I have seen. Reproduction is perfect.

Coating: Milk.

Color: Good.

Gloss: Good.

Taste: Good.

Center: Of semi-liquid cream.

Workmanship: Very good.

Remarks: See remarks under Code 5F 30.

Code 5H 30

Crate of Eggs—6 Pieces—6 Ozs.—25c

(Made in New York City.)

(Purchased in a retail candy store in Brooklyn, N. Y.)

Appearance of Crate: Seasonable and well put up.

Crate: Nicely printed with Easter scenes in colors.

Eggs: Wrapped in printed glassine paper.

Chocolate: Sweet.

Color: Good.

Gloss: Good.

Center: Vanilla cream.

Flavor: Good.

Texture: Good.

Crate contained four chocolate eggs and two panned colored eggs.

Panned Eggs: Good.

Center: Good.

Remarks: This crate of eggs at 25c is

a little high priced. Suggest the panned eggs be left out and six chocolate cream eggs be used.

Code 5I 30

Assorted Easter Box—49c

(Purchased in a drug store in Brooklyn, N. Y.)

Appearance of Package: Fair.

Box: 9¼"x7¾"x2". Lavender printed wrapper with eggs and chicks in white.

Assortment consisted of five moulded pieces and panned eggs. Most of box was filled with paper grass.

Chocolate: Milk.

Gloss: Good.

Moulding: Fair.

Taste: Fair.

Panned Goods: Good.

Remarks: This box at 49c is not up to standard. The package was made to look large, but the goods are of only fair quality.

Code 5J 30

Milk Chocolate Solid Chicken—2 Ozs.—15c

(Made in New York City)

(Purchased in manufacturer's retail store in New York City.)

Appearance of Package: Cheap. Nothing attractive or seasonable looking about the package.

Box: Folding. Plain white board used; name in blue.

Chocolate: Milk.

Color: Good.

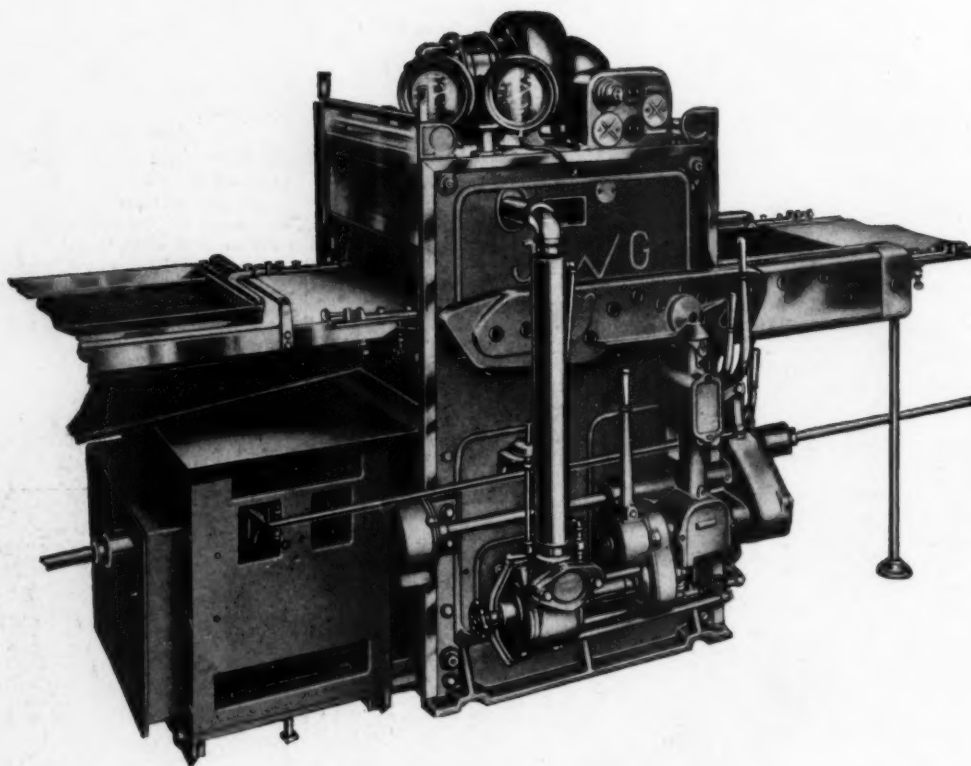
Presenting a Selection of Easter Numbers



The above array is a comparatively small, but representative, assortment of Easter merchandise that appeared on the market this year. Attractively packaged, inexpensive items were by no means in the minority. Some of the chocolate pieces were exceptionally fine examples of moulding as it should be.

GREER

Confectioners Machinery
that pays dividends



This fan blows the surplus chocolate off the centers leaving the EXACT amount desired. Did you ever stop to figure how much you are losing if the percentage of chocolate runs even ONE Percent above that desired? It can easily amount to \$20.00 per day! Your operator may set the fan on some Coaters or Enrobers to give a 30% coating and you may get 30% for awhile, but when a belt is used to drive the fan it is sure to slip, and thus give variable percentages of coating—and almost always the percentages are higher.

The Fans on all Greer Coaters are mounted directly on the Motor shaft and consequently give an even blast of air thus ensuring the same percentage of coating, for any certain setting,

Who Ever for

*Sounds unreasonable
doesn't it?*

*Yes, but it's true.
Here is the Fan
does it. —*

*You can find it
top of every
GREER COATER*

*Why not let
YOU a new
machine. It
others.*

at all times. This MEANS MONEY
AND MONEY SAVED IS MONEY
chines do you have which have paid for
Year? Every day that you operate an

J. W. GREER CO.

Manufacturers of Confectioners
Machinery that Pays

119-137 Windsor Street

Ever Heard of a Fan Paying for a Coating Machine!?

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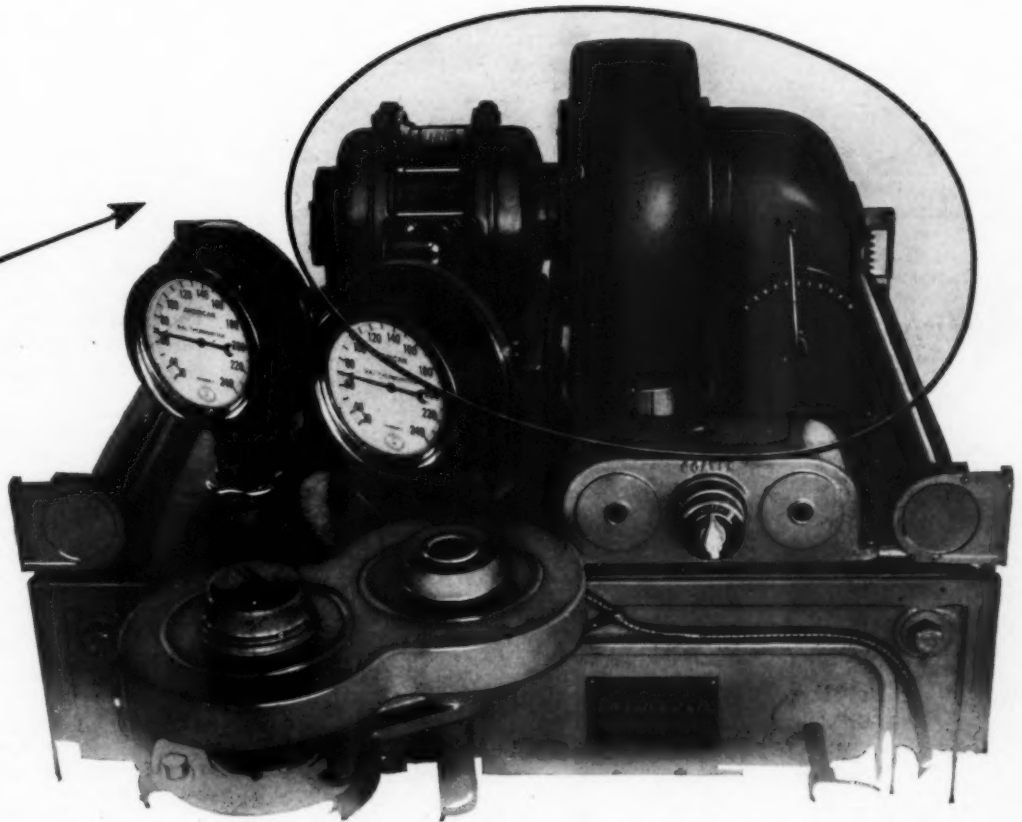
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ANS MONEY SAVED FOR YOU!
IS MONEY MADE! How many ma-
have paid for themselves in less than a
u operate an inefficient coating machine

GREER COMPANY

*turers' Confectioners'
ry tha Pays Dividends*

CAMBRIDGE, MASS.

you are making a payment on a modern Greer Coater—Why not install Greers and enjoy greater profits?

Many users of Greer Coaters have stated that the Fans alone have paid for the machines. The well designed, absolutely silent Fan Unit is only one of the many money saving features of Greer Coaters. It will pay you to investigate before investing.

You can secure Automatic Feeders, Bottoming Attachments, Automatic Temperature Controls, Detailers, Cooling Tunnels, Cooling Machines, Melting Kettles, Cooling Slabs, Crystal Racks and special machines which are also good profit makers.

An inquiry places you under no obligation.

THE CANDY CLINIC

Gloss: Good.
Moulding: Good.
Taste: Good.

Remarks: The quality of chocolate used was a little better than the type of chocolate used in moulded goods. The box needs some "dressing up." Suggest it be printed in appropriate colors and design. At the price of 15c much can be done to improve the container's appearance.

Code 5K 30

Chocolate Standing Rabbit—25c

(Made in Brooklyn, N. Y.)

(Purchased in manufacturer's retail store in Brooklyn, N. Y.)

Appearance of Package: Nothing attractive or seasonable about the package.

Box: Folding. White board; name printed in black.

Chocolate: Sweet. Very dry and gritty.

Color: Good.

Gloss: Good.

Taste: Fair.

Moulding: Good.

Remarks: At the price a great deal can be done to improve the appearance of this package; 25c seems high for this chocolate rabbit.

Code 5L 30

Maple Walnut Half Egg—2 Ozs.—5c

(Made in Brooklyn, N. Y.)

(Purchased in a retail candy store in Brooklyn, N. Y.)

Appearance of Egg: Good. Large lavender cup used.

Chocolate Coating: Bittersweet.

Color: Good.

Gloss: Good.

Taste: Good.

Center: Maple Walnut Cream.

Flavor: Good.

Texture: Good.

Remarks: This is a well made egg and should be a good 5c seller.

Code 5M 30

Walnut Top Half Egg—2 Ozs.—5c

(Made in Brooklyn, N. Y.)

(Purchased in a retail candy store in Brooklyn, N. Y.)

Appearance of Egg: Good. White cellophane wrapper used. Two walnut halves on top.

Chocolate Coating: Bittersweet.

Color: Good.

Gloss: Good.

Taste: Good.

Center: Cocoanut Cream.

Flavor: Good.

Texture: Good.

Remarks: This is a good quality half egg at the price of 5c.

Code 5N 30

Crate of Six Foiled Eggs—7½ Ozs.—25c

(Made in Boston, Mass.)

(Purchased in a retail candy store in Brooklyn, N. Y.)

Appearance of Crate: Good. Seasonable and well put up.

Crate: Easter scene on top, colored in lavender, yellow and green. Neatly done.

Eggs: Six different colors of foil used.

Chocolate Coating: Bittersweet.

Color: Good.

Gloss: Good.

Taste: Good.

Center: Cocoanut Cream.

Flavor: Good.

Texture: Good.

Moulding of Eggs: Good.

Remarks: This is a very good crate of eggs at the price of 25c.

Code 5O 30

Fruit and Nut Egg—6 Ozs.—15c

(Made in Boston, Mass.)

(Purchased in a retail candy store in New York City.)

Appearance of Package: New and distinctive.

Box: White wrapped board, with a partition in center of box the shape of the egg; in each corner a panned egg of different color. A very novel package! Had a printed glassine wrapper on the sides with a Cellophane window over the top of the box. A plain board telescope cover completed the box.

Chocolate: Sweet.

Color: Good.

Gloss: Good.

Taste: Good.

Center: Fruit and Nut Cream.

Flavor: Good.

Texture: Good.

Panned Eggs: Good.

Remarks: This is the most unusual package I have seen this season. A patent has been applied for. Everything about the package bespoke quality. Conception and execution are excellent!

Code 5P 30

Hollow Milk Chocolate Egg—1½ Ozs.—5c

(Purchased in a 5 & 10c store in New York City.)

(Manufactured in Brooklyn, N. Y.)

Appearance of Package: Good.

Box: Size 3¼x2¼x2¼. This box is a folding box with a rabbit extending over top of box. Printing in orange and lavender; rabbit in light brown.

Egg: Of good size.

Chocolate: Milk.

Gloss: Good.

Moulding: Good.

Taste: Good for this priced goods.

Remarks: This is a novel way of putting up small pieces of moulded goods. The box is attractive and with the rabbit extending over the top gives us something new in the Easter novelty line. No doubt, this box can be improved upon for larger pieces selling at high prices.

Code 5Q 30

Milk Chocolate Chick—1½ Ozs.—5c

(Made in Brooklyn, N. Y.)

(Purchased in a 5 and 10c store in Brooklyn, N. Y.)

Appearance of Package: Good.

Box: 2¾x3¼x2¼". This is a folding box with rabbit head extending over top of box. Printing in orange and lavender; rabbit printed in brown.

Chick: Good size.

Chocolate: Milk.

Gloss: Good.

Moulding: Good.

Taste: Good for this priced goods.

Remarks: See remarks under Code 5P 30.

Code 5R 30

Setting Hen—2 Ozs.—10c

(Made in Brooklyn, N. Y.)

(Purchased in a retail candy store in Brooklyn, N. Y.)

Appearance of Package: Cheap and not at all attractive.

Box: Folding. Plain white board used. Printed in light brown on four sides.

Chocolate: Milk, fair.

Gloss: Good.

Moulding: Good.

Taste: Fair.

Remarks: This box needs some re-vamping. A better grade of board might be used. Also the printing requires some color. The chocolate used is not up to standard at the price of 10c for 2 ozs.

Code 5S 30

Crate of Milk Chocolate Marshmallow Eggs—12 Pieces—10c

(Purchased in a drug store in New York City.)

Appearance of Package: Good.

Crate: 5"x3"x2½". Printed in lavender; chicks and rabbit on top. Printing of yellow, green and orange.

Marshmallow Eggs: 12 pieces.

Chocolate: Milk.

Color: Good.

Gloss: Good.

Moulding: Poorly shaped; did not resemble eggs.

Taste: Good.

Center: Marshmallow.

Marshmallow: Good texture and taste.

Remarks: 10c seems very little to charge for this crate of eggs. There can be but small profit made, if any. Suggest a better mould be made for the center. Absence of name or address on the package is a serious matter.

Code 5T 30

Cocoanut Cream Egg—1½ Ozs.—5c

(Made in Philadelphia, Pa.)

(Purchased in a retail confectionery store in Brooklyn, N. Y.) Sold in bulk.

Appearance of Egg: Fair. Showed some leaky spots.

Chocolate Coating: Bittersweet.

Color: Good.

Gloss: Good.

Taste: Fair. A little too bitter.

Center: Cocoanut cream. Cream slightly dry. Also had some hard sugar lumps in it.

Flavor: Good.

Shape of Egg: Good.

Remarks: This egg at 5c is not quite up to standard.

Eric Lehman Reports

Candies' Annual Easter Parade

FOILED moulded goods imported from Germany have found a greedy market in this country. Retail candy, drug and nut stores, also 5 and 10 cent stores—carrying large and complete lines of this merchandise report sales of these imported confections beyond their expectations. A manager of one of the large chain stores told me that German made moulded goods were *outselling* the products of American manufacturers. Is it not high time that we investigated this situation and decided wherein we have failed or in what respects our foreign competitors' merchandise surpasses our own?

In examining several of these samples, I found them to be excellently moulded, of very fair quality and wrapped in foils that "show up," by comparison the foils used by American manufacturers. It is difficult to understand how a foreign made confection can be a serious competitor of ours, particularly on 5c and 10c items, until we analyzed their methods of manufacture. Of course exceedingly low wages have a certain bearing on German importations retailing at so low a cost. However, that is not the sole answer because this is partially offset by import duties. The real answer is found in the fact that these goods are moulded by machines that turn out large quantities of finished goods at high speed. The chocolate is simply deposited in the moulds and the machine does the rest. The foiling operation is the only one requiring any amount of labor. The writer understands that several of these machines will put in an appearance in this country some time during the coming months.

In previous years the chain, candy and drug stores featured jelly beans and 5 and 10c eggs in their window and showcase displays. This year the trend has been toward a display of higher grade merchandise. They have left the cheaper line of candies for the 5 and 10 cent stores to handle. This

is as it should be. Could we but keep all of the cheaper grade candies in the stores whose business is built upon the merchandising of low priced items and let the retail candy and drug stores concentrate their efforts in selling the better class of merchandise, a much better balance would be struck and all would enjoy a more substantial business.

Many of the Easter candies appearing on the market this year were packed neatly in attractive, seasonable boxes ranging in price from 15c to \$2.00. The generally pleasing appearance of these packages undoubtedly had much to do with the unusually large volume of sales such merchandise enjoyed. The popular prices of eggs, rabbits, chickens, etc., either filled or hollow, were from 20c to \$1.50.

The best selling eggs seemed to be those decorated with chocolate. Another very popular type of egg was one made in two hollow halves, one half filled with assorted chocolates and the other tied on with ribbon. A few of the filled paper eggs were of course available and there was one egg-shaped one-layer box packed with assorted candies which sold fairly well.

The Easter wrappers used by most of the large wholesalers on their regular line of boxes were in most cases very attractive. It was apparent that a great deal of attention had been given to the design and color schemes of these wrappers. Their improvement over last season's creations was very noticeable.

I was unable to find a single box of assorted Easter goods or what we might term the "family" package. I recall that during the Christmas season one of the most popular sellers was a package put out by a large wholesale house containing something for the kiddies, an item or two for the young people, and something for the older folks. Why not an Easter "family" package retailing around \$4.00 or \$5.00? This is a hunch for some alert manufacturer for next year.

Mail Bag

(Continued from page 51.)

We have your letter addressed to our retail store. We have followed with interest your "Candy Clinic" Department. Some of your criticisms have been quite favorable on products and others have not been so favorable. However, we like criticism and have changed several pieces in our packages after reading your articles.

One point we would like to bring out however, and that is, it is often unfair to pick up a package from a retail outlet and make an analysis of same because often times this package may have been on the dealer's counter for considerable time and the contents may not be in good condition. Manufacturers of course endeavor in every way possible to regulate and educate the dealers regarding the manner in which they keep their stock but you will appreciate there are many conditions of which we cannot possibly have control.

R. E. C. (New York).

We are aware of the difficulties of controlling the age of stock after it leaves your hands. Still, that does not interest the consumer. Our Clinic buyers present themselves to these stores in the role of regular candy customers. What they receive, your customers will receive. If you are not already employing a code-dating and inspection system, it may pay to give the subject some study. Possibly the jobber's salesman could aid in maintaining a turnover on the retailer's shelves if he had the key to the code to work with.

—MC—

Under separate cover we are sending you a box of our chocolates with its new wrapper which was adopted about two months ago before your article came to our attention.

The analysis of our candy in the "Candy Clinic" was extremely fair, though we have never been convinced that the soft, "sloppy" creams are more preferable.

P. S. (Cambridge).

"Confectionery Problems"

Dr. Stroud Jordan's new book should prove a noteworthy addition to the rather scant literature of the industry

The following letter from Mr. Walter C. Hughes, Secretary of the National Confectioners' Association, and the digest of Dr. Stroud Jordan's new book "Confectionery Problems" presented below should prove unusually interesting to our readers at this time:

TO VERY FEW men is given the opportunity to contribute to an Industry something of lasting benefit and epochal in character.

That unique distinction is a well earned honor which should be bestowed upon Dr. Stroud Jordan for having written a book of outstanding merit and of real benefit to the Confectionery Industry. His "Confectionery Problems" just off the press, stands alone as the only book of its kind written in plain, understandable language, free from technical terms, and dealing with more than one hundred problems which are matters of every day concern to the Confectionery Manufacturer, and offering practical suggestions for their solution.

In the "Foreword" by Mr. E. B. Hutchins, Chairman of the Education and Research Committee of the National Confectioners' Association, he says:

"'Confectionery Problems' fills a void in the literature of confectionery. There has long been a demand from many sources for just such a book and it was inevitable that some one would realize the need. It may prove a milestone in the history of our industry, for it cannot fail to dissipate many false notions and stimulate a more scientific attitude. It should also forewarn the manufacturer against the charlatan whose only prey are the uninformed."

In the "Preface" Dr. Jordan modestly states that:

"It is not intended to enter into a scientific discussion of problems which confront the Industry but rather to refresh the memory of those familiar with and introduce newcomers to conditions as they exist. It is obviously impossible to give more than a general outline on raw materials used, products made, processes employed and problems encountered in the production of Confectionery."

The "Introduction" alone is worth the price of the book. It contains a resume of the reasons for and the purpose of the book and the importance of a thorough understanding of the problems of Confectionery Manufacturers, if one is to succeed in that line of endeavor. It is epitomized in the opening paragraph:

"Progress in Industry depends upon careful selection of raw materials, accurate control of processes involved and sufficient knowledge of finished products to insure proper distribution. It therefore follows that Manufacturers in similar lines have similar problems and Confectionery offers no exception to the rule."

The Book contains three hundred and seventy-five pages, divided into thirty-five chapters covering four distinct phases of Confectionery Manufacturing, "Raw Materials," "Finished Products," "Processes," and "Control."

There is a bibliography which will astonish many old-time Confectioners, containing as it does a long list of published works on Confectionery, some of them dating back more than one hundred years.

The chapters on "Raw Materials" include Sugars, Invert Sugar, Starch and Gums, Cocoa Products, Milk Products, Albumen and Gelatin, Nuts and Fruits, Flavors and Colors.

Sugars

The chapter on "Sugars" covers in non-technical language, the various kinds of Sugars used by the Manufacturing Confectioner, their origin and method of manufacture, their peculiarities, their uses for specific purposes and the troubles encountered in using them, and suggestions as to how they can be overcome. As many of the Manufacturing Confectioner's problems can be traced directly to lack of knowledge of the fundamental characteristics of different kinds of sugars, or different conditions of the same kind, it may be safely assumed that this chapter will be of special interest to all Manufacturing Confectioners.

The chapter on "Invert Sugar" tells the reader what it is, how it is made, the part it plays in being both a source of trouble and a blessing to the Confectionery Manufacturer, and how trouble caused by Invert Sugar may be overcome, and how it can be used in many advantageous ways in the manufacture of many kinds of delectable Confectionery.

Starches and Gums

The chapter on "Starches and Gums" covers the kinds and varieties commonly used in the manufacturing of Confectionery, how they are made or where they come from, and practical suggestions how to overcome the difficulties which the average Confectionery Manufacturer frequently has with thin and thick boiling starch for cooking purposes and moulding starch for casting many varieties of candies.

Cocoa Products

The chapter on "Cocoa and Cocoa Products" includes an interesting history of the origin and development of Cocoa Beans, (the Author uses the trade name "Cocoa" instead of the scientific name "Cacao"), where the leading varieties come from, the purpose of blending and method of manufacturing them into various grades and kinds of Chocolate Coating. The author gives practical suggestions as to how the greying of Chocolates may be overcome and how various problems peculiar to the use of Chocolate Coatings for specific purposes may be solved.

Milk Products

The chapter on "Milk Products" is an exceedingly interesting description of the methods used in the manufacturing of various kinds of milk products such as are customarily used by Confectionery and Ice Cream Manufacturers, and how they can be used most advantageously in the manufacturing of many kinds of Confectionery.

The average Confectionery Manufacturer uses Milk Products without much thought as to their scientific structure and knows little of the care necessary to keep them in prime condition. This chapter is a liberal education on this important subject.

Gelatin

We venture the opinion that few Confectionery Manufacturers know

how "Albumen and Gelatine" are made. The chapter on these two important raw materials is very instructive and interesting reading. The author tells how they are made, the reasons why they are used in making certain kinds of Confectionery, and how to avoid trouble when using them.

This chapter gives one a very clear understanding of the whys and wherefores that frequently arise in connection with their use, which is always more or less a technical matter.

Fruits

Perhaps the most troublesome problems for the average Confectionery Manufacturer are associated with the use of Nuts and Fruits.

In the chapter on this subject the author shows a very clear understanding of these problems and tells how they can be solved. That portion of the chapter relative to Fruits used for Chocolate Coating, such as Cherries, is a mine of valuable information.

In the introductory part of the chapter on "Flavors" the author analyzes the science of taste and shows why certain flavors are pleasing and others not so pleasing. He says that:

"A true taste is the sensation produced when something is eaten that has no perceptible odor."

This for the reason that flavors containing volatile materials affect the sense of smell, which in turn affects the sense of taste. Smell and taste are therefore directly related, and as the author says:

"Since the secondary tastes, which are taste and perfumed combinations, are most important in Confectionery Manufacturing, it is necessary that we review our knowledge of scents, perfumes and odors."

and then he proceeds with a critical analysis of various popular flavors, how they are made, and the best and most satisfactory method of using them in order to produce the most pleasing results.

Colors

The chapter on "Colors" is perhaps, from a scientific viewpoint, the most technical of all the chapters in the book. This is necessarily so for the reason that colors are not, generally speaking, the result of using natural raw materials; they must be produced synthetically.

This chapter, though more technical than the others, is clear, concise and interesting reading, and throughout is full of practical information which the average Confectionery Manufacturer does not have. The use of colors with many Confectionery Manufacturers is largely a matter of guess and "hit and miss" methods. This enlightening chapter will be a boon to many who have little practical knowledge on this subject.

Finished Products

In the classification entitled "Finished products," the following kinds of Confectionery are each covered separately in the succeeding ten chapters: Hard Candies, Fondants, Crystal Products, Caramel and Fudge, Marshmallow, Gum Goods, Jellies, Coconut Products, Chocolates and Panned Goods.

In a brief review such as this it is impractical to attempt to give a resume of each of these chapters. In each chapter the author gives practical information as to methods and means of producing the best results and how to avoid trouble in the manufacture of the particular kind of candy covered by the chapter.

From the viewpoint of the average Confectionery Manufacturer these chapters are perhaps the most important of any in the book, dealing as they do with everyday problems and offering practical suggestions for their solution.

Processing

In the classification entitled "Processes" the following subjects are included: Molding and Drying, Starch Care, Water Supply, Packaging, Stock Handling, Storage, Shelf Life, Fumigation, Use of Instruments and Decolorizing.

Can any Confectionery Manufacturer read this list without realizing the immense importance of these ten chapters?

How many Confectionery Manufacturers know what "case hardening" is?

How many know that it is very necessary to have a definite percentage of moisture in the air in a drying room, if satisfactory results are to be obtained?

How many know that "temperature, moisture and proper circulation are the three most necessary factors in successful drying"? To quote the author.

How many Confectionery Manufacturers know that bacteria develop rapidly in damp starch and that moulding starch will absorb 12% of its weight of water?

How many know how very necessary it is to have moulding starch dry, and above all else, clean, if best possible results are to be obtained?

As the author says, "There is entirely too little attention paid to this problem at the present time."

Water

How many Candy Manufacturers think of "Water" as a "Raw Material," and yet, as the author says, "more water is employed in the manufacturing of Confectionery than any other raw material, and less known about its composition," and that "many Confectioners believe that 'water' is just 'water' and let it go at that." But "water" is not "just water," as the author goes on to demonstrate that the difference between good results and bad results in the manufacture of hard goods may frequently be due entirely to the character of the "water" used in the batches. Similar illustrations could be taken from each chapter.

The classification entitled "Control" includes the following subjects: Standardization, Distribution, Research, Factory Control and Problem Summary.

While these subjects are not so interesting to the average Confectionery Manufacturer, they are all very important and should be read very carefully.

Factory Control

The information in the chapter on "Factory Control" is especially valuable. To quote from the introductory paragraph of that chapter:

"With standardized products and processes at our disposal it would seem that the story is ended, but it must be remembered that steam pressure is never exactly the same, temperature and humidity will vary, and practically every surrounding condition is subject to change. As a result, processes which are always carried out in a similar manner do not always produce similar results. To insure uniformity of product, it becomes necessary to check periodically and determine whether or not results are obtained as required."

This chapter covers not only what might be termed mechanical

(Continued on page 73.)

WHEN Mr. Devine asked me to address you this evening, I understood him to say that the organization of the Philadelphia Candy Institute was largely inspired by, and an answer to, the editorial campaign which we have been waging in *THE MANUFACTURING CONFECTIONER* for a *real* Candy Institute.

Our first reaction was to feel quite flattered. But I must tell you that we also felt just the least bit disappointed.

Disappointed because the very essence of a business paper is to be fighting for something; and when you come along and tell us you've formed one of the things we've been fighting for—it makes us waste just that much perfectly good ammunition which we would have used in *THE MANUFACTURING CONFECTIONER*. . . .

To a great many of you, we must seem like a very young paper to be taking upon ourselves the responsibilities of technical leadership in an industry as old as ours. My own experience dates back scarcely 15 years. *THE MANUFACTURING CONFECTIONER*, which I have had the honor of editing for the past two years, is still a trifle shy of its tenth birthday.

Yet perhaps it is for the very reason that we *are* young, and have not had *time* to become hoary and hidebound to traditions, that we are able to bring a fresh viewpoint to bear upon the problems of the candy industry. We have had to make up by initiative and specialization what we have lacked in years.

Prior to publishing Mr. Kneen's articles, "Let's Build a *Real* Candy Institute," the members of our technical staff put in many months of work, laying the groundwork for this series.

A study was made, and is still in progress, of the various methods successfully employed by other industries in solving their research and merchandising problems. . . .

Among the industries whose methods we studied, were the baking industry, the dairy and ice cream industries, the glass container industry, the laundry industry, soap and its kindred aids to cleanliness—and a number of individual firms like the Fleischmann Company, whose remarkable trade educational work has given them an outstanding

leadership in their respective fields. We found that some of these industries have privately-endowed vocational schools, some have their own laboratories and training schools, and some have sponsored courses in universities, while others have established research fellowships at Mellon and similar industrial institutes.

Now just what does all this mean to you? To me, it means just this: That these industries which are competing with us every day for pretty much the same chunk of the customer's dollar, have found it *necessary* to do this work in order to stay in business. . . .

For some time past, it has been our contention that the best way to work out the candy industry's problems is to study the methods of the industries *successfully taking business away from us*. Why pioneer a new and untried path when the answer lies all around us, in the in-

strumentalities being employed day after day, frequently to our detriment, by these other industries?

When we come to analyze the work of these various agencies which are confronted with problems similar to ours, we find that they have grouped their institute needs under several distinct heads:

The first of these is *organized research*. Just to what extent a local organization such as yours might wisely and profitably engage in co-operative research will remain to be seen—especially in view of the broader scope of the proposed research activities of the N. C. A.

For these major activities of the *National* body, and we hope they do it reasonably soon, we can picture a popularly-subscribed, *self-supporting laboratory and experiment station* to which the more important research problems of the various local groups such as your own would ultimately gravitate.



Address Be Candy Institute O

By A. ADAMS LUN



Before the of Philadelphia

LUND

Here we would have a *practical candy factory in miniature*—to serve as a proving ground for new methods and new materials, and where suppliers and machinery manufacturers who cared to donate or loan their material or equipment could arrange to leave them for purposes of demonstration and experiment.

There would be lecture and laboratory rooms to accommodate student candy makers as well as those who desired to improve their present training. A liberal concession in tuition fees might be made to the employees of participating members.

Salable batches of candy produced at the experimental plant, would be finished up, packed under an appropriate label and sold in such forms, or in markets such as charity bazaars, concessions, or for export, in such a way as to bring in a little additional revenue without actively competing in the established markets. It might even be

desirable to put out one or two non-competitive institute specialties which would help to keep down the investment charges by keeping the equipment gainfully employed.

Chemists of outside plants and other interested research workers would be afforded an opportunity to use the superior facilities of the institute laboratories whenever required, a moderate laboratory fee being charged for this privilege. Other income would be forthcoming from fellowships established at the Institute by prominent candy manufacturers and supply firms—and from candy grading or scoring service such as those of the baking industry.

Time and facilities permitting, the central institute might also bid for the research and analytical work, not only of confectionery and chocolate manufacturers, but of supply firms catering to these industries. New research developments would

be patented for the protection of contributing institute members, the royalties resulting from these patents coming back to them in the form of dividends at the end of the year.

Thus under intelligent and capable management, an institute such as we have in mind could not only be made self-supporting, but a source of profit as well as industrial leadership, after the first few years of preliminary expenditure. Visionary? How can you say that when the bakers and laundrymen are *already doing it*?

That is what we call aggressive institute leadership. That is what we mean when we say: *Build a Real Candy Institute!*

To embark upon a problem such as I have just outlined, would manifestly be too much of an undertaking for any local body. That sort of leadership must be forthcoming from the *National* body and be *supplemented* by whatever specific and personalized work you might decide to undertake for the benefit of your own members. . . .

Not the least important of the duties of a Candy Institute is to serve as a *clearing house* for trade and technical information of direct and indirect benefit to its members. Questionable trade practices, credit and financial service, retail and wholesale price changes, tip-offs on favorable and unfavorable publicity originating either from within or from outside of the industry—these are some of the things which might be gathered together and interpreted in a bulletin service to members. The success of this service will depend upon the resourcefulness, experience and business judgment of the man you put in charge of it.

But to be a successful clearing house of knowledge for the common good, the institute must do more than get out an informative bulletin once a week or once a month. It should offer an open forum for the free exchange of practical and merchandising knowledge among its members. It should favor frank, liberal and open discussion. It should discourage secrecy which is the hall mark of backward industries. Every man must be made to realize that he has much more knowledge to gain from the group as a whole than he personally could ever hope to contribute during his lifetime.

I know of no better way to en-

CANDY INSTITUTE

courage this sort of discussion and exchange of ideas than to open a question box at the end of every business meeting. Some of you are probably shaking your heads and saying to yourselves inwardly that they won't catch you laying open your factories or stores for purposes of vivisection—but it doesn't mean that. It only means a little friendlier attitude in helping the other fellow with his problems and a willingness to bring your own problems into the open so that you in turn may be helped.

Somebody said recently that if all new inventing and discovering should suddenly cease, the world could proceed at an uninterrupted pace for the next 25 years—merely on the momentum which would result from spreading out to the many, the vast fund of knowledge which is now stored in the brains of a few.

Finally, we come to *education*—perhaps the most vital function of all. What about *publicity*, *advertising*, and all the other forms of what might be called mass or *consumer* education? Time is getting brief and consumer education is such a big subject that I will have to leave it out for the present, although I should be glad of an opportunity to go into it with you in detail on some future occasion or when time permits.

So when I refer to your job of *education*, I am thinking primarily of the help in the factories, on the road and in the stores. The need of trained help is apparent in all branches of our business. Manufacturers need trained factory men, men with an all-around knowledge and sufficiently adjustable to permit them to be shifted from one department to another in slack season—a practice which would avoid the present alternative of high labor cost in off seasons, for laying off skilled specialists difficult to replace when needed. We seem to have comparatively few men of this type among the rank and file of the industry. Some of it is our own fault, no doubt, but for the most part it has been due to the absence of a constructive educational policy on the part of the industry as a whole. We also need skilled fore-ladies, candy salesmen who know some-

thing about the construction and health values of candy, store managers who are candy men and not druggists and hardware dealers, and sales girls without an inferiority complex on curves.

Does this mean that you will have to go into the business of opening up little brick school-houses? Not at all. Again—look to your competitor industries. Countless vocational schools and universities all around you are patiently awaiting the day when you will give them an opportunity to cooperate with you. They will only ask that you meet them half way.

So why not begin to look around now for the most likely university, or vocational school—it might even be a Y. M. C. A. or Y. W. C. A.—and make arrangements with them to give day or evening courses in candy making and candy merchandising. Guarantee them an initial quota of students from your own stores, offices and factories. . . . And then keep your finger on the courses to insure their being operated continuously along sound business lines.

Where would the new student eventually come from? Let's ask the ice cream and baking *industries*. Students for the Manufacturing courses would be drawn from the following groups:

1. Candymakers desiring to qualify for advanced positions in their own organizations;
2. New recruits interested in entering the industry on a sound educational footing;
3. Executives desirous of rounding out their own fund of knowledge;



4. Salesman-demonstrators, connected with supply firms who desire to know how the products which they are to sell may be used, in order to save time and promote efficiency for everyone concerned.

A list of student graduates should be kept by the Institute to facilitate the placement of new recruits in positions where they will be of maximum use to the industry. Here is an opportunity for you to "spot" unusual talent and groom them for key positions.

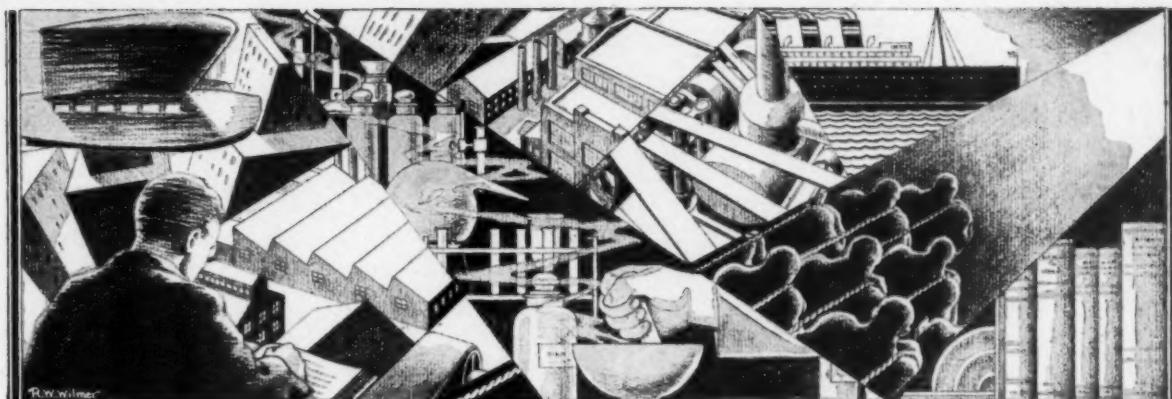
The same sort of training can be planned for the merchandising end of the business, except that the courses would include salesmanship, candy dietetics, store planning, window and showcase decorating, store management, etc.

Then take your most promising help, send them to the school for a few hours each week and watch your business grow! Both summer and evening courses could be provided so as to accommodate all classes of students while interfering least with the seasonal help requirements of the candy industry.

Personnel training is one of the most promising activities which you might possibly engage in. And whether you give these courses yourselves or cooperate with established schools to have them do it for you—really doesn't matter. Vocational training is a vital and necessary part of the new educational program of modern industry.

In conclusion, let me congratulate the firms present here tonight on their splendid initiative and progressive spirit in being the first in the candy field to see the light and to prepare to meet modern business conditions with modern business methods. The technical and merchandising problems which have at times baffled each of you individually are now to be solved by our united efforts.

If we furnished the spark for this great endeavor which you have embarked upon, we are immensely proud. And if we can continue to serve you by posting an occasional beacon on the road ahead, and watch you grow in common understanding and public confidence, we shall feel that our ideals have borne fruit and our labors adequately recompensed. I thank you.



Monthly Digest of CURRENT TECHNICAL LITERATURE

Foil Covering for Fancy Candy Boxes



Anon. *The Australasian Confectioner*,
vol. 14, p. 36.

CANDY boxes covered with foil instead of fancy printed paper are being used by several manufacturers in Australia and England. A special light gauge foil, gummed to a backing of parchment-like tissue paper, proved to be ideal for the work and is supplied in all stock designs—numbering well over 2,000—plain or embossed, including the most “modernistic” styles in every conceivable hue.

So brilliant is the result that even ribbon looks a little “cheap” in association with it, and transparent wrappings, usually adopted to make the boxes look brighter, have actually a dulling effect. One of the most interesting features of the idea is that the foil is actually cheaper than good-class fancy printed paper. The foil also has other advantages. Not only will it stand the doming process and work equally well with machine or hand-made boxes, but it will not lose its embossing as paper does, for the metal is embossed before the flat paper backing is stuck on. Where pictures are necessary on the lids of boxes, the foil can be used for the edges, special styles being offered for this purpose. One

manufacturer has produced a very attractive box simply by covering it completely in a very modern design of foil, gold for the most part, and putting in the center of the domed top a black silhouette picture of a girl.

Vanilla: Cultivation, Grading and Marketing

By H. Drake-Law.
Food Manufacture,
vol. 4, p. 293.

THE author gives an interesting description of the cultivation and preparation of vanilla. Among the topics discussed are pollination, vanilla sources, curing, the curer's art and marketing.

Foil-Wrapped Food Materials

1. *Investigation Concerning the Use of Zinc Foil in the Food Industries.*
By L. T. Fairhall and
L. C. Walker. *Food Ind.*, vol. 1, p. 642;
from *Chemical Abstracts*, vol. 24, p. 1159.

THE average amount of zinc naturally occurring in ginger ale (7 brands) was 1.5 p.p.m. (parts per million), varying from 0.5 to 2.3 p.p.m.; in chocolate mints 16

p.p.m.; in chocolate 15.2 to 32.4 p.p.m. and in acid drops (candy) 3.6 p.p.m. Zinc foil was readily dissolved by ginger ale, the amount varying with the amount of oxygen present, temperature, acidity and time of exposure. In 10 days ginger ale in which a 3-in. square piece of zinc foil was placed contained 222 p.p.m. of zinc; in 60 days 662 p.p.m. of zinc was present.

Chocolate coated candy wrapped in zinc foil contained 4.6 to 65 p.p.m. of zinc after 2 to 5 weeks storage at a temperature of about 70° F. Increase in temperature caused a great increase in the amount of zinc retained on the candy. A 10 minutes exposure of ginger ale to zinc foil caused a retention of 2.3 p.p.m. of zinc. The amount of zinc taken into the body with such foods and beverages as chocolate, candy and ginger ale with which zinc foil has been used for wrapping is negligible from the point of view of public health.

Vitamins

British Patent No.
317,554 to C. Schmitt.

VITAMINS are extracted from cotton-seed, which after removal of the oil is ground finely and leached out with water without boiling. The extract may be added to various food products such as milk, butter, dried milk or cream, cheese, cocoa, chocolate and sugar.

Soya Beans and Lecithin



By Harvey J. Sconce. *Food Manufacture*, vol. 5, p. 26.

ONE of the new products which it is now possible to obtain from soy beans is lecithin. A ton yields 10 to 20 lbs. which sells at \$1.25 per lb. Armour & Co. obtain this same product from brain tissue and sell it at \$5.00 per lb. The Eastman Kodak Co. extracts it from eggs. The supply of lecithin has therefore been limited, but the use of soy beans as a source will make it possible to obtain much greater quantities at a reasonable price.

The largest commercial use of lecithin at present is in oleomargarine. The addition of only 0.2% is sufficient to give oleomargarine the same consistency as the finest creamery butter. As there are 350,000,000 lbs. of oleomargarine produced annually in the United States the future market possibilities of lecithin are readily apparent. In addition, the use of lecithin in chocolate is beneficial for retarding the "graying" caused by age and fluctuation of temperature and it is believed that there is a big field for its use in the candy industry.

Review of Confectionery Manufacture for 1929



By H. G. Watts. *Food Manufacture*, vol. 5, p. 13.

THE author reviews the principal developments in the confectionery industry in Great Britain during 1929. General trade conditions were unsatisfactory and manufacturers endeavored to meet this condition in two ways—by the evolution of cheaper, albeit attractive and wholesome products, and by price cutting.

From a technical standpoint, the year was marked by detailed improvements rather than by any outstanding successes. Increased interest has been taken in the problems of packing confectionery. Vacuum packing of candy of a hy-

groscopic nature, but low in moisture—such as toffee and hard candy—has been found to offer considerable advantages, particularly for export purposes.

The year has seen an extension of the list of artificial colors permitted in the United States, but the lack of a bright red, such as rhodamine, is an obstacle to the production of attractively colored candy for America. The increasing use of cellophane as a wrapping agent has been an interesting development in the confectionery world. Incidentally, the use of cellophane has presented the trade with one or two minor problems, and it is coming to be realized that not all lines can suitably be cellophane-wrapped.

Considerable attention has been given to the problems of fondant manufacture and use, work having been in progress both in the United States and in Great Britain. The work carried out by the Research Association for the candy trade in Great Britain has taken the form of an investigation into the structure and composition of fondant. Reports embodying the results obtained have been distributed to the members of the Association and have proved to be of great practical value.

Other problems with which the English candy trade, through its Research Association, has been engaged include the influence of the composition of hand candies on their keeping qualities—more particularly their resistance to heat and moisture—and an investigation into the general properties of sugar-gelatin jellies. Attention has lately been directed to the possible use of powdered pectin in confectionery. While it is improbable that it will fulfill all that has been claimed for it, there are some obvious advantages in the use of a standardized product of this nature.

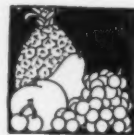
Review of Progress in the Candy and Chocolate Industry for 1929

By J. Valentine Backes. *Food Manufacture*, vol. 5, p. 11.

THE author reviews the principal points of progress in the industry in Great Britain during 1929. Progress during this period was largely along the line of internal

development. Nearly all firms have extended by either adding to or building new factories. Much attention has been given to detail in the newly built candy factories and a determined effort has been made to modernize those of older standing. This development has been carried out in spite of the fact that the consumption of chocolate and candy in England was no greater, and possibly a little less, in 1929 than in 1928. The great strides made by the tablet chocolate trade have established a new demand for English chocolate and the public is beginning to be less influenced by the psychological appeal of the word "Swiss" as applied to chocolate. Research on manipulation of raw materials has promoted more efficient production in the industry.

Lemons as a Source of Pectin



By Giuseppe Savoja. *Industrial chimica*, vol. 4, p. 367-9; from *Chemical Abstracts*, vol. 24, p. 171.

IT is pointed out that in California 30 lbs. of pure pectin are recovered from every ton of lemons, and that the process should be introduced into Sicily. (Lemon pectin may be used for a variety of purposes, including production of fruit jellies and other types of candy.)

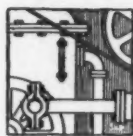
Vanilla (Anon)



The Perfumery and Essential Oil Record, vol. 20, p. 53.

BRITISH manufacturers produce their vanillin from clove oil, using about $\frac{1}{3}$ of the clove crop of Zanzibar. Because of a short crop, the price of cloves has been advanced over 100%, and as a result, Continental manufacturers have been flooding the market with low priced vanillin made from guaiacol, a coal tar product. British manufacturers are now considering the advisability of producing guaiacol vanillin instead of attempting to maintain the level of quality of clove oil vanillin.

Methods of Manufacture of Vanillin



By G. Malcolm Dyson. *The Perfumery and Essential Oil Review*, vol. 20, p. 435.

IN an article on "Recent advances in the chemistry of 'aldehydes'" the author discusses the various methods available for the manufacture of vanillin. One very curious method is the preparation of vanillin from the waste sulphite liquor which accumulates during the manufacture of paper pulp from pine wood. When this liquor, which contains quite appreciable amounts of pine lignin, is made alkaline and aerated, vanillin is produced and may be separated by solvent extraction and sublimation. Other methods, including conversion of guaiacol into vanillin, are described. (Lignin is one of the 3 great components of agricultural wastes and constitutes about 30% of the dry material of all vegetation. It has been recently found that lignin contains large quantities of eugenol and guaiacol from which vanillin may be produced.—Editor.)

Italian and Spanish Sweet Orange Oils



By Dr. Ernest S. Guenther, *Fritzsch Bros., Inc., New York. American Perfumer and Essential Oil Review*, vol. 24, p. 589.

The author discusses the manner of production, cost, constituents and chemical and physical properties of Italian and Spanish sweet orange oils. Production of orange oil in Italy is still done by the old-fashioned methods of hand pressing. One firm in Palermo subjects the finely cut and mechanically pressed orange mass to vacuum direct steam distillation. Steam distilled orange oils, however, do not keep as well as the pressed oils.

In Spain the usual method of producing orange oil is to submit the grated orange peel to hydraulic pressure. The pressed cake of gratings remaining in the hydraulic press is submitted to steam distillation and gives a second grade, dis-

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tilled oil of orange. Outside of crude adulteration Spanish orange oil is often adulterated with distilled orange oil and it is difficult to prove the presence of a moderate percentage of distilled oil in pressed oils.

Vitamin B Value of Some Foods



Anon. *Biochemical Journal*, vol. 23, p. 546.

A number of experiments were made to determine the relative vitamin B values of various nuts, the tests being made by placing pigeons on diets lacking in vitamin B except as it was contained in the added nuts. Dried yeast was taken as a standard (equal to 100). Four per cent of yeast included in a diet was sufficient to maintain pigeons in good health.

Ground nuts had the highest value (20 relative to dried yeast). Hazelnuts had a similar value. Almonds had a value of 10. Cocoa-nut had no maintenance value for pigeons. (It is said that the discovery of vitamins in carrots has increased the demand for that humble vegetable to such an extent that gardeners have more than doubled the quantity produced in the last five years. It is reported that more than six million bushels were consumed in 1928. The announcement by recognized authority that any food product contains constituents of special value is likely to result in increased demand. The public nowadays is becoming "health-conscious." It is highly desirable that the candy industry scrutinize the various ingredients of candy from the standpoint of their content of different vitamins and capitalize this knowledge to the fullest extent possible.—Editor.)

Colloids and Their Importance in Foods

By W. Clayton. *Food Manufacture*, vol. 4, p. 251.

The author defines the term "colloid" and discusses the function of

colloids in foods. "Emulsoid" colloids, i. e., those that have greatest affinity for water, have the greatest influence on the properties of foods. Gelatin and agar are familiar examples in the candy industry and their varying behavior is discussed from a colloid standpoint.

Flavors and Colors



H. Drake-Law. *Food Manufacture*, vol. 5, p. 23.

A recent addition to the citrus oil group of flavors is grapefruit oil, which is now being successfully pressed from the skins of the fruit. This oil has a fine flavor, but it has not yet become generally known. It will soon, however, assume a permanent position among commercial oils and is certainly worth a trial.

A New Confection

British Patent No. 308,552 to C. Magat; from *Chemical Abstracts*, vol. 24, p. 173.

A CONFECTION giving the sensation of cold when eaten is produced by intimately mixing together a melted vegetable fat (such as cocoa butter) and chocolate, and quickly cooling the product by contact with ice. Sugar and certain other ingredients may be added to the mixture. Details of manufacture are given.

Saccharine Product for Use in Confectionery and Baking

British Patent No. 311,916 to A. W. Frame; *Chemical Abstracts*, vol. 24, p. 901.

A MIXTURE of sugar such as sucrose (cane or beet sugar), lactose (milk sugar) or dextrose (corn sugar) with water and maltose (malt sugar) is heated with stirring and then rapidly cooled (to retard growth of crystals in the mass).

New Sugar Substitute

Anon. Food Manufacture, vol. 4, p. 185.

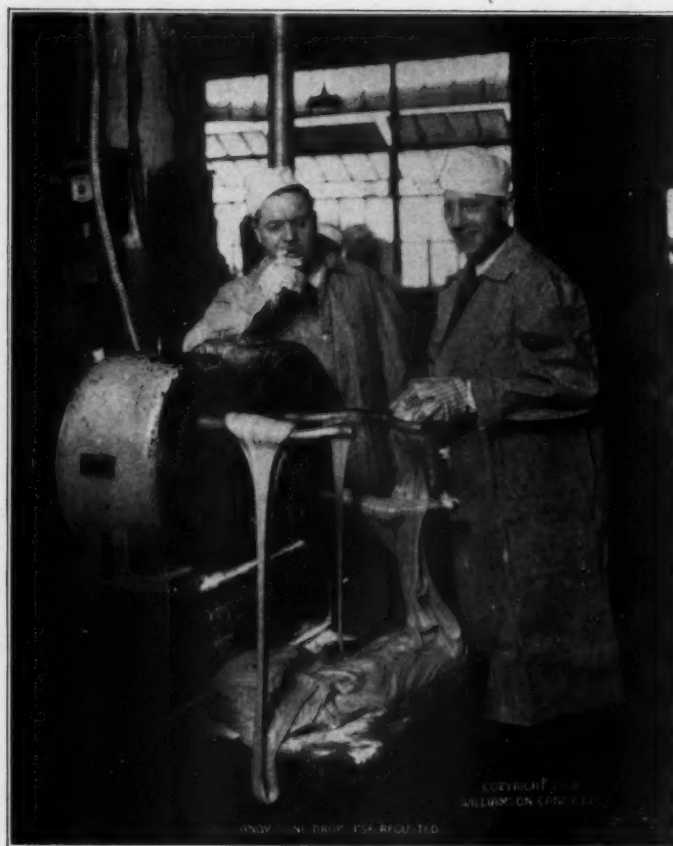
RECENTLY the German I. G. Farbenindustrie has been putting d-sorbitol on the market, under the name of "Sionon," as a sugar substitute. Sionon has a pleasant, sweet taste, which, according to the reports of the medical clinic of the University of Wurzburg, was not distasteful to any of the patients. Sionon could also be used in condiments, although it must not be heated above 140° F. Its general applicability will depend primarily upon its price.

The Ultraviolet Irradiation of Food Products

Anon. Food Manufacture, vol. 4, p. 324.

ULTRAVIOLET irradiation of foods containing ergosterol results in the production of vitamin D. Storing up vitamin D in cereal foods by subjecting them to the action of ultraviolet rays, thus enabling both children and adults to utilize calcium (lime) for developing and repairing bone and teeth tissue structure, is a recent development in the United States. Three large mills of a well known concern manufacturing breakfast foods have installed equipment for this purpose, and a part of the cereal production of these mills undergoes the beneficial treatment. On endless belt conveyors, arranged in moving step formation, the milled wheat, steamed and thoroughly sterilized, is fed in a thin layer on broad moving belts which pass slowly under the vitalizing glow of mercury quartz vapor lamps. Before moving into the influence of the invisible rays the grain has just its ordinary properties; a short distance beyond, although unchanged in appearance, it contains a supply of the anti-rachitic vitamin.

The apparatus and procedure used for irradiating milk are also described. The time required for exposure is a few seconds only and the process is continuous. The expense of irradiating milk by this process is almost negligible and such milk is now being produced on a commercial scale by several "clean milk" dairies. (Because of the wide publicity that has been given to vitamins and the great interest of



Amos 'n' Andy Some Buck Candy Makers

THIS famous pair, Charles J. Correll and Freeman F. Gosden, made a trip to the Williamson Candy Company factory in Chicago on May 1st. They took off their coats, donned uniforms and turned out a batch or two of "Amos 'n' Andy" bars, as you can see by the pictures.

Said Amos, "Um, um! Ain't dat sumpin?" when he tasted a nice cool bar picked off the wrapping belt. Andy seemed to have forgotten about Madam Queen and his troubles until Amos failed to handle the jacket properly on the pulling machine, and remarked gloomily, "T'se regusted."

Both Amos and Andy perked up when they saw the unending stream of boxes slide over the rollers, into cartons sealed automatically, and glide along the conveyor into a car that was being loaded for Boston. "Looks better'n the taxi business," said Amos. "Is you-all incorpolated?"

"Sho, sho! Course day is," said Andy. "Day's big business men, like I is."

Over a year ago, Messrs. Correll and Gosden gave the Williamson Candy Company the exclusive right to use their name, "Amos 'n' Andy," on candy. A test bar was put out at that time, but not until February of this year was the present big bar placed under this name. Sales since then have been phenomenal, and we understand day and night production facilities of both Chicago and New York factories are being taxed to the limit to meet the demand.

George Williamson and M. H. Sobel, president and treasurer of the company, claim that the surface hasn't been scratched yet because the consumer is being given his money's worth of good candy under a name that's loved and respected from one end of the country to the other.

It was during just such a year as this (1921) that Oh Henry! started on its road to fame. It is said that history repeats itself. Are bad years good ones for the Williamson Candy Company?

the public in the subject from a health standpoint there may be considerable advertising value in the use of some irradiated material in candy. For instance, irradiated milk could be used in certain kinds

of candy. It has been stated that vitamin D is stable at temperatures well over 300° F.; consequently it would not be destroyed at the temperatures used in candy manufacture.—Editor).

The Convention Program

Addresses by prominent speakers will cover many phases of the industry's problems

THE following information comes to us from N. C. A. headquarters.

While all of it is subject to last-minute revision, it is in general a fairly complete summary of the final program.

On Tuesday afternoon, June 2nd, there will be a report of the Advertising Committee and a discussion of the National Advertising Campaign. Mr. Geo. H. Williamson, chairman of this committee, will have a very interesting and enlightening report to submit at this session. Mr. C. A. Radford, publicity manager for the Big Four railways of Cincinnati, Ohio, will also address the meeting at this time.

Dr. Stroud Jordan, chief chemist of Henry Heide, Inc., of New York, is scheduled to give us an interesting and practical talk on the "Possibilities of Research Work in the Candy Industry." It is expected that through his broad and intimate knowledge of this phase of our business, Dr. Jordan will acquaint us with many important side lights that have heretofore escaped the attention of many of us.

Subsequent to Dr. Jordan's address Mr. E. B. Hutchins, chairman of the Education and Research Committee, will render his report.

Unquestionably the addresses of Dr. Jordan and Mr. Hutchins will be two of the most interesting and outstanding features of the convention.

"The Work of the National Safety Council" will be the subject of a talk by Mr. William H. Cameron, manager of the Council.

Dr. Alfred H. Williams, known throughout the country as a brilliant and forceful speaker on business topics will discuss "The Institute Movement in American Business." Dr. Williams represents the Department of Industry, Wharton School, University of Pennsylvania.

Among the speakers will be a representative of the U. S. Department of Commerce. Mr. R. R. Gilbert, Grocery Specialist of the Department's Foodstuffs Division will favor us with an address on "Candy Distribution Costs." Subsequent to Mr. Gilbert's talk will be given a report of the Association's Cost Distribution Survey Committee of which Mr. William F. Heide is Chairman.

The various other special committees will give their individual reports during the period of the convention and all of them should be awaited with interest. Arrangements have also been made for

group meetings of Package Goods Manufacturers, Bar Goods Manufacturers, and the Penny Goods Manufacturers.

In addition to the above outlined program, the N. C. A. is endeavoring to have Dr. Julius Klein and Senator William E. Brock speak at the Tuesday forenoon program. In Senator Brock's case, his presence at the convention will be determined by the adjournment date of Congress. If the adjournment takes place before June 1st, he will be with us. Dr. Klein's appearance is even more uncertain. He will, however, make every attempt to arrange his affairs so that he can be present.

There you have it! A program chock full of discussions bearing on many elements vital to our industry. It is an inspiring program which the N. C. A. has mapped out and we sincerely recommend that every individual connected with the business of this industry who can possibly do so arrange to be in Chicago the week of June 2nd. Reserve your rooms at *The Stevens* and buy your railway transportation NOW!

Following is the complete list of exhibitors to date:

See Directory of Exhibitors of Machinery, Raw Materials and Supplies which appears in this issue.

Directory of Exhibitors

at the Annual Exposition and Convention of the National Confectioners' Association at Chicago

AMERICAN SUGAR REFINING CO., THE, 520 North Michigan Ave., Chicago, Ill. (No. 137)

Exhibiting: Various sugars and moving pictures of the "story of sugar." In attendance: Geo. B. Hild and Dr. M. Blix.

ALLEN & CO., J. W., 110 N. Peoria St., Chicago, Ill. (No. 11)

Exhibiting: Domestic and Imported Shelled nuts, featuring pecans and black walnuts. Subsidiary company exhibiting glace fruit, i. e.: Cherries, Pineapples, assorted fruit and candy specialties. In attendance: Mr. Beard, Mr. F. W. Allen, Mr. J. G. Ford.

AMERICAN CAN CO., 104 S. Michigan Ave., Chicago, Ill. (Nos. 77 and 98)

Exhibiting: Fancy decorated metal boxes, lithographed candy and confectionery packages and deco-

rated novelties. In attendance: C. B. Cadwallader, F. A. Weyer, E. C. Wurtz of Chicago; E. Hoffman, Sr., L. A. Trevisan, F. Eberhart, New York.

ANHEUSER-BUSCH, INC., St. Louis, Mo. (No. 11)

Exhibiting: Corn Syrup Unmixed. In attendance: Oscar Wagner, Chas. Grupe, Jos. B. Murphy, Jr.

ATLANTIC GELATINE COMPANY, Woburn, Mass. (Nos. 91 and 106)

BAKER-PERKINS CO., INC., Saginaw, Mich. (Nos. 118-122)

Exhibiting: International Coater, Velvos Circular Conche Sugar Sanding Machine. In attendance: A. F. Miller, M. M. Guggenheim.

THE CONVENTION PROGRAM

BETTS PRODUCTS CO., 321 W. Austin Ave., Chicago, Ill. (No. 57)

BRUNHOFF MANUFACTURING CO., THE, York St. and Freeman Ave., Cincinnati, Ohio. (No. 70)

Exhibiting: A limited number of candy display features of outstanding merit. In attendance: E. Brunhoff, H. Brunhoff, F. Bryan, L. Goldschmidt.

WM. M. BELL CO., 6 East Lake St., Chicago, Ill. (No. 44)

Exhibiting: Vanillas and Flavors. Featuring vanilla extracts, compounds and black walnut flavor. In attendance: J. A. Weidler, L. B. Burnett, O. P. Kaut, H. M. Campbell, Miss N. J. Jones.

BLANKE-BAER EXTRACT & PRESERVING CO., 3232 S. Kingshighway, St. Louis, Mo. (No. 83)

Exhibiting: Full line of dipping fruits, including dried sugared pineapple cubes with candies made with the various dipping fruits, also extracts, etc. In attendance: J. B. O'Connor, Miller Winston, L. T. Skidmore, C. H. Westaway, James Flanagan.

BRUNHOFF MFG. CO., Cor. York St. and Freeman Ave., Cincinnati, Ohio. (No. 70)

PETER CAILLER KOHLER SWISS CHOCOLATES CO., INC., 131 Hudson St., New York, N. Y. (No. 136)

Exhibiting: Peter's Superlative Chocolate Coatings, Peter's, Cailier's and Nestle's Milk Chocolate, Peter's Natural and Dutch Process Cocoas, Hedges' Ever-Ready Chocolate, Sportsman's Chocolate Bracer. In attendance: Guy S. Jenkins, A. C. Ferry, J. H. Baker, J. R. Rice, R. J. Dempsey, A. P. Herschler, Jr.

CARRIER ENGINEERING CORPORATION, 850 Frelinghuysen Ave., Newark, N. J. (Nos. 64-65)

Exhibiting: Complete air conditioning unit, in operation, for cooling, dehumidifying and cleansing the air in candy manufacturing and packing departments. In attendance: E. P. Heckel, A. E. Meling, Chicago; O. M. Ragsdale, D. C. Lindsay, Newark.

CLINTON CORN SYRUP REFINING CO., Clinton, Iowa. (No. 126)

In attendance: W. R. Smith, A. P. Bryant, R. E. Clizbe, G. E. Corson, R. C. Jones.

CORN PRODUCTS REFINING COMPANY, 17 Battery Place, New York, N. Y. (No. 135)

CRYSTAL GELATINE CO., 121 Beverly St., Boston, Mass. (No. 46)

DELINE MANUFACTURING CO., 1051 Santa Fe, Denver, Colo. (No. 110)

Exhibiting: Fancy Paper Boxes. In attendance: I. A. Deline, R. G. Pagne.

DU PONT CELLOPHANE CO., 2 Park Ave., New York, N. Y. (Nos. 35-36)

Exhibiting: Cellophane wrapped candy products—both package and bar goods. In attendance: A. W. Shaffer.

ESSEX GELATINE CO., 40 N. Market St., Boston, Mass. (Nos. 62-63)

Exhibiting: "Melblupas," a product which retards blooming and graying chocolate coatings. Marshmallows—from balanced formula showing most in texture and keeping qualities. In attendance: L. B. Esmond, Dr. W. W. Duecker, O. W. Johnson, R. E. MacFarland.

EXACT WEIGHT SCALE CO., THE, 944 W. Fifth Ave., Columbus, Ohio. (No. 107)

Exhibiting: Predetermined weight scales of various capacities for retail stores and manufacturing confectioners. Also semi-automatic liquid filling machines for syrups, etc. In attendance: W. A. Scheurer, F. G. Holmes, H. D. Duff.

EPPELSHEIMER & CO., 34 Hubert St., New York, N. Y. (No. 66)

Exhibiting: Chocolate molds for bars, flat cakes and fancy pieces. Double molds for hollow chocolate figures, ice cream molds. In attendance: Wm. H. Warren, John D. Warren, Herbert A. Shera.

FERGUSON CO., J. L., Joliet, Ill. (Nos. 68-69)

FOOD MATERIALS CORP., 3450 W. Lake St., Chicago, Ill. (No. 6)

Exhibiting: Booth arranged so as to show that the millions of dollars spent yearly by National advertisers producing all types of food products is spent in an appeal to the consumers' sense of taste, namely through Flavor. In attendance: R. J. Rooney, W. F. Leonard, E. E. Feiegh, Dick Sheehan.

FOOTE & JENKS, Jackson, Mich. (No. 114)

Exhibiting: "Isolate" Natural flavors and other flavoring specialties. In attendance: A. A. Koch, C. R. Foster, C. H. Redding.

HARRY L. FRIEND, 52 India St., Boston, Mass. (Nos. 129-130)

Exhibiting: First showing "Super Dreadnaught" electric automatic Hand-Roll machine. The fastest depositor of Hand-Roll Centers in the world. In attendance: Harry L. Friend.

GAY STUFFED TOY & NOVELTY CO., INC., THE, 260 Stone Ave., Brooklyn, N. Y. (No. 47)

Exhibiting: Stuffed Toys & Novelties made in the best quality of silk plush and mohair plush, in very attractive colors. These novelties will range in several dimensions and designs. In attendance: P. Butta.

GENERAL ELECTRIC CO., Schenectady, N. Y. (Nos. 71-72)

GREER CO., J. W., 119 Windsor St., Cambridge, Mass. (Nos. 92 and 105)

Exhibiting: Chocolate coaters with labor saving attachments. Melting kettles. In attendance: J. W. Greer, F. W. Greer, Ralph Duchacek, Alfred Martini.

HENRY CO., IRA L., Watertown, Wis. (No. 103)

Exhibiting: Fancy novelties in candy boxes. Machine and hand made. In attendance: E. F. Goecke, P. S. Rumple, N. T. Yeomans.

HERSEY MANUFACTURING CO., South Boston, Mass. (No. 123)

Exhibiting: Working Model Hersey Starch Conditioner, also Working Models giving details of interiors. In attendance: H. W. Harrigan, Winthrop P. Hersey.

HEYWOOD CO., R. R., New York, N. Y. (No. 37)

HAUG & CO., INC., 370 7th Ave., New York, N. Y. (No. 95)

Exhibiting: Invertase (Enzyme of Yeast) Haehnlen hardener to prevent chocolates from becoming gray (Invertase to keep fondants soft). In attendance: Geo. Haugwitz, Louis Price, Bob Moench, E. J. Smith.

HUHN MANUFACTURING CO. H., 3915 Hiawatha Ave., Minneapolis, Minn. (No. 108)

Exhibiting: "Scene in action"—picture of modern method of drying, cooling and cleaning confectioners' starch. In attendance: Alex G. Huhn, I. H. Norton, John Sheffman, H. W. Munday.

THE MANUFACTURING CONFECTIONER

HOHBERGER MFG. CO., 330 N. Kenneth Ave., Chicago, Ill. (No. 32)

KNICKERBOCKER CASE CO., 2329 N. Crawford Ave., Chicago. (No. 55)

Exhibiting: Salesmen's sample display cases. In attendance: R. S. Thompson, M. C. Kosanke, G. W. Sweitzer.

KOHNSTAMM & CO., INC., H., 11-13 E. Illinois St., Chicago, Ill. (No. 102)

Exhibiting: Atlas Certified colors. Genuine fruit extracts and imitation flavors. In attendance: Hugo Pulver, Louis Woolf, Harold Weil, Eugene Pfeiffer, Albert C. Hassel, William H. Nelson, Justin Pulver, George Verrey.

LEHMANN CO., INC., J. M., 250 W. Broadway, New York, N. Y. (Nos. 42-43)

Exhibiting: Cocoa Lignon Mill with 4 chilled iron rolls. Roller bearings and granulator. In attendance: E. Raue.

LUEDERS & CO., GEORGE, 427 Washington St., New York, N. Y. (No. 104)

Exhibiting: Fruit oils and specialties for flavoring confectionery. In attendance: F. J. Lueders, George K. Lueders, John Wilhelm.

MCGRAW BOX CO., 200 Fifth Ave., New York, N. Y. (No. 134)

THOS. MILLS & BRO., INC., 1301 N. 8th St., Philadelphia, Pa. (No.)

Exhibiting: Continuous Candy Cutter, Motor driven candy crimper, electric cream dipping pot; electric chocolate warmer; electric candy furnace; electric batch warmers. In attendance: John G. Mills, George T. Mills.

MILPRINT PRODUCTS CORPORATION, Milwaukee, Wis. (No. 109)

NATIONAL ANILINE & CHEMICAL CO., 40 Rector St., New York, N. Y. (No. 143)

Exhibiting: Certified food colors and malic acid. In attendance: Frank W. Green, Earl E. Davies, E. A. Johnson, L. B. Raugh.

NATIONAL EQUIPMENT CO., Springfield, Mass. (Nos. 88, 89 and 90)

Exhibiting: Candy Machinery and its products. In attendance: G. A. Bausman, A. L. Bausman, J. G. Rote, B. E. C. Gillette, W. G. Tucker, C. B. Turner, H. C. Baum, F. S. Moulton.

NULOMOLINE CO., THE, 111 Wall St., New York, N. Y. (Nos. 112, 113 and 132, 133)

Exhibiting: New ideas for candy manufacturers consisting of bulk and penny goods, 5c bars and package chocolates; Nulomoline, Convertit and standard grades of molasses for confectioners. In attendance: Miss T. M. Holicky, Charles Fahrenkamp, James P. Booker, R. S. Taussig, Gordon H. Wilcox, James A. King.

NATIONAL SUGAR REFINING CO., 129 Front St., New York, N. Y. (No. 144)

NUSSBAUM NOVELTY CO., Berne, Ind. (No. 45)

PACKAGE MACHINERY CO., Springfield, Mass. (No. 41)

Exhibiting: Automatic Lolly Pop wrapping machine. New high speed Toffee wrapping machine. In attendance: Ray Davis, Arthur Hull, Edward G. Westervelt, Frederick Taylor.

PAPER SERVICE CO., 28 North Sixth St., Philadelphia, Pa. (No.)

Exhibiting: Fancy Box Covering papers for candy boxes. In attendance: A. H. Wilkins.

PILLIOD CABINET CO., THE, Swanton, Ohio. (No. 65½)

Exhibiting: Complete line of miniature and juvenile cedar chests and other boxes of various finishes, lining and construction. Also the Air-O-Bian Flying Kite. In attendance: T. J. Pilliod, E. H. Bergin, L. H. Oppenheim, J. W. Barrett.

H. H. OTTENS MFG. CO., INC., 127 S. Front St., Philadelphia, Pa. (No. 85)

PANAY CO., 1111 32nd St., Milwaukee, Wis. (No. 10)

Exhibiting: Panay sectional showcases. Various sizes of display equipment for the display and merchandising of candies and other food products. In attendance: H. F. Mann.

PENICK & FORD, 420 Lexington Ave., New York, N. Y. (No. 60)

PETER CAILLER KOHLER SWISS CHOCOLATE CO., 143 Hudson St., New York, N. Y. (No. 136)

C. M. PITT & SONS COMPANY, Lombard & Commerce, Baltimore, Md. (No. 81)

POND CO., E. K., 3327 W. 47th Pl., Chicago, Ill. (No. 82)

Exhibiting: "Derby" peanut coating, "Derby" plastic peanut center, etc., with display and samples of finished goods made with those products. In attendance: W. L. Althouse.

RATHBORNE, HAIR & RIDGWAY CO., 2138 S. Loomis St., Chicago, Ill. (No. 19)

Exhibiting: Starch trays, dipping boards, basswood specialties, shipping cases, wooden and wire-bound. In attendance: E. N. Anderson, D. M. Holen-shade.

RACINE CONFECTIONERS' MACHINERY CO., Racine, Wis. (Nos. 139, 140 and 141)

READ MACHINERY CO., York, Pa. (No. 59)

Exhibiting: New type H Read candy beater with various attachments for coating, pulling and grinding work. In attendance: P. D. Hendrickson, Arthur DeLong, Walter Harrison.

SAVAGE BROS. CO., 2638 Gladys Ave., Chicago, Ill. (Nos. 56 and 48-49)

Exhibiting: 200 lb. capacity Savage Latest Imp. Oval Type Marshmallow Beater, Savage Continuous Candy Cutter, with improved cutting chain and 3 step conveyor with wire belt, 50 Gallon B-2-A Mixer with 125 lb. pressure steam jacket copper kettle, 2-Way Caramel Cutter, Model S, No. 3 Savage Portable Fire Mixer, 35 gal. Model F-6 Savage Patent Tilting Mixer, Chief-a Combination Cooker, Mixer and Beater, with swinging furnace; Bon bon Dipping table with monel metal top, Chocolate dipping table with monel metal top, Savage Water Cooled Steel Slab. In attendance: R. J. Savage, R. E. Savage, R. W. Emerson, W. P. Halpin.

H. SCHULTZ & COMPANY, 531 W. Superior St., Chicago, Ill. (No. 67)

SCHWARZ LABORATORIES, 113 Hudson St., New York, N. Y. (No. 38)

SENNEFF-HERR CO., 208 Fourth Ave., Sterling, Ill. (No. 142)

Exhibiting: Senneff's "Big 3 Candy Makers' Specialties," with finished candies of all kinds made from these money and labor-saving products. In attendance: C. W. Senneff, Ben F. Kreider, B. Welcher, B. J. Kennedy, J. C. Comer.

CONVENTION PROGRAM

SCHLEICHER PAPER BOX CO., F. J., St. Louis, Mo. (Nos. 93-94 and 125)

Exhibiting: Fancy candy boxes for Christmas, Valentine, St. Patrick, Easter, Mothers' Day and other commemoration day boxes. Booth No. 125, Import Department, showing newest in novelty containers from Europe. In attendance: Louis Allen, Lawrence and Frank Schleicher, B. F. Fischer, C. H. Tietjan and H. F. Drews.

WM. J. STANGE CO., 2549 Madison St., Chicago, Ill. (No. 79)

UNION CONFECTIONERY MACHINERY CO., INC., 318 Lafayette St., New York, N. Y. (No. 76)

Exhibiting: New American Candy Pulling machines. Descriptive advertising of our complete stock of rebuilt candy and chocolate machinery. In attendance: Joseph Greenberg, Herman Greenberg, Charles Balin, Irving Debrovner.

UNITED CHEMICAL & ORGANIC PRODUCTS CO., 4100 S. Ashland Ave., Chicago, Ill. (No. 131)

Exhibiting: U-COP-CO Pure Food Flake and Granulated Gelatine. U-COP-CO "Sign-in-action" will feature Wheel Dried Flake Gelatine in process of manufacture. In attendance: J. W. Burns, F. E. Robinson, P. T. Storr, E. G. Buchanan, J. J. Rawle, F. J. Loeffler J. E. Price, T. W. Harrigan.

UNIVERSAL PAPER BOX MFG. CO., St. Louis, Mo. (No. 58)

VACUUM CANDY MACHINERY CO., 15 Park Row, New York, N. Y. (No. 101)

Exhibiting: Simplex Vacuum Cookers. In attendance: S. S. Whitehurst, C. J. Covert, E. C. Moeller.

WARFIELD CHOCOLATE CO., 536 West 22nd St., Chicago, Ill. (No. 115)

Exhibiting: Samples of Chocolate Coatings, Chocolate Liquors, American and Dutch Process Cocoas, Chocolate Specialties. In attendance: Robert G. Warfield, John D. Warfield, Jr., Lucille E. Barber, L. B. McKenny, Andrea DeParry.

WERNER & SONS, JOHN, 713 Lake Ave., Rochester, New York. (No. 99)

WEYGANDT CO., T. C., 165 Duane St., New York, N. Y. (No. 84)

Exhibiting: Chocolate moulds. In attendance: E. Faber, Oscar A. Haas.

WHITE STOKES CO., INC., 3615-23 Jasper Place, Chicago, Ill. (Nos. 127-128)

Exhibiting: The exhibit will pertain to some very interesting new developments for wholesale and retail manufacturers. In attendance: L. O. Stokes, H. J. Thurber, J. E. Lynch, H. McKenna, F. J. Lawrence, A. B. Cassidy, J. A. Brown.

WHITE STAR IMPORT CORPORATION, 20 East 12th St., New York, N. Y. (Nos. 1-2)

Exhibiting: One latest type Tablet Machine, making hard candy tablets at the rate of 1200 drops per minute; also Universal Chocolate Wrapping Machine and high-speed Plastic cut and twist wrapping machine for toffees and caramels. In attendance: R. Grohskopf, S. Schwartz, J. E. Baum.

WILBUR SUCHARD CHOCOLATE CO., 235 North Third St., Philadelphia, Pa. (No. 73)

YORK ICE MACHINERY CORP., York, Pa. (Nos. 53-54)

Publications

THE MANUFACTURING CONFECTIONER PUB. CO., 30 N. La Salle St., Chicago.

Exhibiting: Two specialized publications—one for the manufacturing branch of the industry exclusively; the other (The Confectionery Buyer) for the distributing division—the wholesale outlets primarily.

"The Confectionery Buyer" will feature its merchandising educational service for wholesalers and retailers of confectionery.

THE CONFECTIONERY AND ICE CREAM WORLD, New York, N. Y.

Dr. Beecher Passes Away

It is with deep regret that the National Aniline & Chemical Company announces the death on April 18, 1930, of Dr. Fred E. Beecher, connected with their Chicago office for 25 years.

Dr. Beecher was associated with the Food Color industry practically from its inception. He was the pioneer in the industry in the Middle West, and was widely known and esteemed throughout the trade.

HARRY OTHO STOKES

THE sudden and unexpected death of Harry O. Stokes, President of the White-Stokes Company on April 10th, at the Woodlawn Hospital, after a short illness, was a shock to his many friends and associates.

Mr. Stokes was 63 years old, a Knight of Templar, a Shriner and a member of the Illinois Athletic, South Shore Country, Olympia Fields and Central Manufacturing District Clubs. He is survived by his widow, Mrs. Jessie Ellsworth Stokes and one daughter, Mrs. Mabelle S. Earle.

Mr. Stokes came to Chicago 40 years ago as a representative of the H. O. Wilbur & Sons Chocolate Co., for the last 24 years, he has been head of the White-Stokes Company. He enjoyed watching the steady growth

of the business from a small beginning to an organization national in its scope of activities.

The loss to his associates and friends spreads to the Confectionery, Soda Fountain and Baking Industries,



as the loss of one whose life, well lived, contributed much to the progress of these industries, his life is worthy of emulation and will serve as an inspiration to his business associates, who will carry on as before perpetuating the name of the White-Stokes Company and the policies which Mr. Stokes endorsed so heartily.

Martin Peanut Products Opens Brooklyn Plant.

The new Brooklyn branch plant of the Martin Peanut Products Corporation of Chicago has recently been

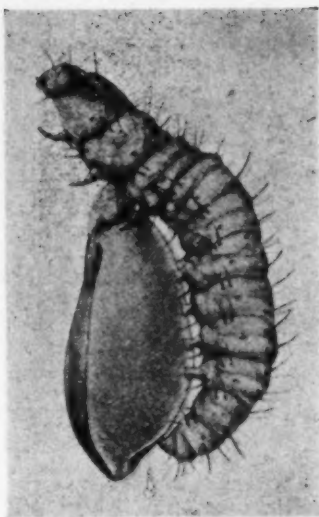
opened and is now in full operation. This plant will be used exclusively in the manufacture of peanut butter and will supply various Eastern, Southeastern and Pacific Coast States with the Martin Product.

Jabez Burns and Sons, Inc., of New York carried out the installations in this highly modern and up-to-date factory.

Ungerer & Co., New York, held their annual meeting of sales representatives at the new headquarters, 15 West 20th street, New York, April 28, 29, and 30.

The meeting was devoted principally to a general discussion of the newly developed synthetic aromatic specialties of M. Naef & Company, Geneva, Switzerland, represented in the United States by Ungerer & Company. Mr. F. Firmenich, president of M. Naef & Company, presided at several sessions of the meeting. Following these sessions, Mr. F. H. Ungerer, president of Ungerer & Co., conducted a general meeting at which the entire line of Ungerer products was discussed.

In addition to the entire New York sales force there were present, Edward Trippe, Philadelphia; Harry J. Ahles, Chicago; George R. MacDonald, Boston, and E. M. Tysdal, St. Louis. H. R. Laist and Wm. Macmillan, representatives at San Francisco and Detroit, respectively, did not attend.



He's just as mean as he looks! This is a well-grown larva of the Indian meal moth crawling on a kernel of wheat.

Insects and the Candy Manufacturer

By B. TOWLEN
Vice-President, Calcyanide Company



IN THE growth of agriculture, industries and communities, with ever-increasing, highly centralized crops and supplies of foods and other commodities, may be found the reason for the multiplication and great abundance of insects; while commerce and transportation have been the principal factors in their dissemination. These noxious and obnoxious pests are now found wherever man toils or is domiciled.

In days gone by a factory or warehouse manufacturing, packing or storing any particular commodity was far removed from other structures carrying on the same operations, and distribution was confined mostly to adjacent villages and towns. The locomotive, the modern steamship and the automobile, however, each successively produced revolutionary changes. Distance was annihilated and the earth became smaller in the eyes of mankind. Communities, countries and continents were brought closer together and more extensive and intensive trade followed. The increased commerce naturally brought about the establishment of larger factories and warehouses, and their concentration at points from which they could best serve the demands made upon them.

Not Only Hoboes Steal Rides on Freight Cars

While these developments immeasurably benefited the human

race, they also provided insects with larger food supplies, greatly increased their numbers and introduced them into the remotest corners of the globe.

It has been estimated that *insects and rodents comprise four-fifths of the animal kingdom by weight!* Such a menace to food supplies of the earth cannot long be ignored.

The number of concerns which must continually carry on warfare against the insects is legion, and it would be an easier task to enumerate the commodities that are not attacked by insects than to mention the host of raw and manufactured products that are subject to damage or infestation by them.

In disputing man's supremacy, insects enjoy a tremendous advantage. The ordinary weapons used in decimating wild animals and reptiles are of little or no value in combatting them. Surprisingly rapid of movement for their size, they can quickly hide and become invisible in a great variety of raw and manufactured products and in nearly all types of structures. Even if insects could be hunted and destroyed by physical contact—an impossible economic achievement because it would entail laborious search and complete destruction of structures and commodities—most species would still exist and multiply because of the utter impossibility of detecting and destroying their eggs by such a method.

The Candy Man's Arch Enemies

—Two species of insects in particular cause the candy manufacturer

much grief: the Indian Meal Moth and the Saw-toothed Grain Beetle.

The Indian Meal Moth is a highly prolific insect, each female laying about three hundred and fifty eggs during its lifetime. The larva (worm) is the stage causing injury, and when full-grown is whitish to flesh-colored and about one-half inch long. The wing expansion of the moth is about three-fourths of an inch, with the inner third of the front wings dirty-white in color. The other portions of the wings are reddish-brown.

The Saw-toothed Grain Beetle is a tiny, reddish-brown beetle, about one-tenth of an inch in length. Each female can lay more than two hundred eggs. The larva is whitish to yellowish in color, about one-tenth of an inch in length, and the full-grown larva has several transverse dark bands.

The Indian Meal Moth and Saw-toothed Grain Beetle are brought into candy factories through the medium of dried fruits, nut meats, used sacks and storage containers. During the warmer months of the year, when insect activity is greatest, the presence of these pests constitutes a serious problem for the candy manufacturer.

That hydrocyanic acid gas fumigation is one of the most satisfactory and effective methods of preventing the presence of live insects in raw and manufactured products, including dried fruits, nuts and candies, seems generally recognized. Sprays and insect powders are of limited value, because the insect-destroying agent must not be per-

INSECTS AND THE MANUFACTURER

mitted to come in direct contact with the commodity.

The more commonly known fumigants which are adapted for use by the candy manufacturer are carbon disulphide, chloropicrin, liquid hydrocyanic acid, ethylene oxide, sodium cyanide and calcium cyanide.

Why the Insects Don't Like Them

Carbon disulphide, popularly known as "high life," is a badly smelling liquid which evaporates readily. The flash point is close to 22° F. below zero—about twenty degrees lower than gasoline and lower than any other commonly known chemical except ether. Its diffusibility is not equal to that obtained from hydrocyanic acid, and

liquid HCN are its explosive nature and the extreme danger attending its use. The initial concentration of gas is very potent and therefore very dangerous to life.

Dr. Metzger's Discovery Reduces Hazards

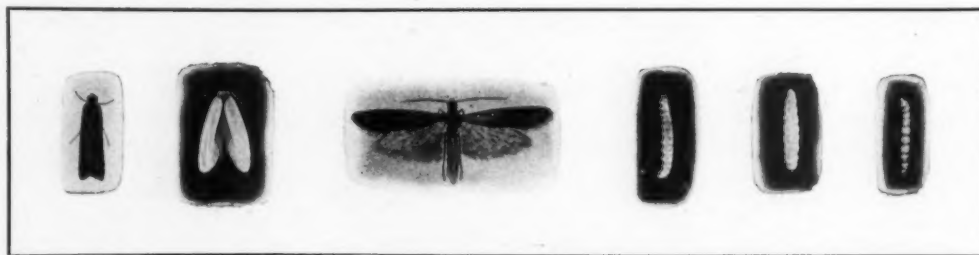
A common form of fumigation is what is referred to as the "pot method." Sodium cyanide, sulphuric acid and water are mixed in certain proportions in crocks, tubs or barrels. The evolved gas is hydrocyanic acid gas. The initial concentration is practically as powerful and dangerous as that evolved from the liquid HCN in steel cylinders. Disposal of the crocks, tubs or barrels, with their contents, after the fumigation is dangerous.

tion, conducting the fumigations either prior to shipment or immediately following manufacture and packing.

Taking Them for Their Last Ride

The operation of a fumigation room is simple and inexpensive. It need cause very little interference with the normal factory routine. After the commodities to be fumigated have been placed in the room, the fumigant is introduced and the door closed and locked. After the expiration of from twelve to fifteen hours, the gas is ventilated to the outside. The fumigated contents may then be removed and the room refilled for another charge.

The fumigation room should be



A few of the pests that manage to make the candy manufacturer's life miserable.

hence the degree of penetration is not as great. At the temperature of boiling water this chemical will take fire without the application of any flame or other method of ignition. Air containing as low as six per cent of the vapor is explosive, and since it is 2.6 times heavier than air, it is almost impossible to make sure that all pockets have been ventilated after its use. Because of its explosive nature, the use of this chemical is prohibited by most insurance companies. Carbon disulphide also imparts a foreign odor or taste to some products upon prolonged exposure to its fumes.

Chloropicrin is a tear gas. It does not equal hydrocyanic acid gas in diffusibility and penetrability, and except where it is used in vacuum apparatus, its adherent property makes it necessary to air the material or building for some time following fumigation. It has a severe lachrymatory effect and on prolonged exposure imparts a foreign odor or taste to some products.

Liquid HCN evolves hydrocyanic acid gas, which in many respects is the most effective of all insect destroyers. The disadvantages of

About three years ago Dr. F. J. Metzger, formerly Professor of Chemistry at Columbia University, discovered calcium cyanide—a chemical which, while liberating hydrocyanic acid gas upon exposure to normal air, does not attain its peak concentration before the expiration of two or three hours. This protracted degree of evolution, as well as its availability in powder form, renders it safer for fumigation purposes than either liquid HCN or the so-called pot method. The method of application is simple, the powder merely being sprinkled upon paper runners laid upon the floor. After the fumigation, these papers, with their residue, are gathered up and burned.

To prevent the presence of insects in his products at the time they reach the hands of the consumer, the candy manufacturer should subject his entire plant to a general fumigation once or twice a year. (This is good for the rats, too!) He should also operate a fumigation room for atmospheric fumigation (or a vacuum chamber) for the treatment of all of his products which are subject to insect infesta-

equipped with a fan to promote circulation of the gas and assist in its penetration into the sealed containers. An exhaust fan and galvanized piping should also be installed to facilitate and accelerate ventilation of the gas after each fumigation. The exhaust fan is usually placed immediately underneath the exhaust pipe, inside the fumigation room, and is controlled by a switch or button located outside the room. A slide valve, placed in the piping outside the room, is opened before the exhaust fan is turned on.

Public References on the Use of HCN

In an article, "The Use of Hydrocyanic Acid Gas for Fumigation," which appeared in *The Indian Journal of Medical Research*, Vol. 7, 1920, Lieut.-Colonel W. Glen Liston, Director of the Bombay Bacteriological Laboratory, states that "in addition to these important advantages the gas does not injure the most delicate fabrics or metals; it does not render food unfit for consumption; grain will germinate after exposure to the gas."

(Continued on page 76)

Value of Sweets with Lecithin*(Continued from page 47.)*

of animal or vegetable origin, is absorbed with great ease by the healthy man and particularly by the sick, and that no disturbances of any kind arise. We know, moreover, that large dosages of lecithin (and doses of 100 grams and more per day have been given) have produced extremely favorable results. An increase in weight occurs; the weakened body rapidly gains strength and it has been proved by experiment that there also occurs a noticeable increase or accumulation of lecithin in the nerve cells.

Consequently, by administering lecithin in large dosages which may amount to 20 grams or more per day, we can influence the organism and its development very favorably, and in the case of persons who are physically very active, strengthen the entire body by giving large dosages of lecithin. We have therefore found in lecithin a very valuable substance, a substance which must not be regarded as a curative kind of medicine, but rather as a concentrated, highly specialized food which has hitherto received all too little attention.

A brief comparison will illustrate this more clearly. We can consume each day possibly two or three, and in exceptional cases even four eggs, although this is hardly possible for any length of time. But, in the maximum instance we consume only 6 grams of lecithin. In order to consume 20 grams of lecithin we would have to eat not less than 13 or 14 eggs daily and this, of course, is practically impossible. Yet, undeniably, the special virtue of eggs lies in their high lecithin content.

Lecithin Via Sweets

Now, inasmuch as there are adequate sources of lecithin—we refer to plant phosphatids—which can be found in the soya bean and other germ oils in large quantities, it is logical to consider the use of special vehicles to provide us with an adequate supply of this valuable substance. How this can best be done has not as yet been definitely decided as there are obviously many possibilities. Among the means not to be overlooked is its incorporation in chocolates, candy and other forms of sweet. Some data may be of interest here.

Lecithin can be very readily incorporated with chocolate, in which it offers the further advantage of retarding fat bloom, or graying. For this purpose only very small quantities of lecithin need be added to the chocolate, the amount in no case exceeding 10%. Lecithin being a wax-like, fatty substance, soluble in the same manner as the fats themselves, it is not a difficult matter to add this to chocolate, as it melts at the heat used in this connection and is distributed evenly throughout the mass.*

Even to be preferred, however, is a kind of "Kraft-chocolate" such as that manufactured in Germany, which in addition to the high nutritive properties of chocolate, possesses the added nutritive qualities of lecithin. In this type of product, a few per cent—up to 10%—of lecithin may easily be added. It would be advisable in this connection, however, to reduce the fat-content of the chocolate mass itself by this amount as otherwise the taste could easily be influenced while the consistency of the chocolate would also suffer.

A Sports Chocolate

Such a chocolate would be sold as "lecithin chocolate," and attention called to its particularly high nutritive value. In sporting circles this product might be made very popular. There has always been need of some special substance which in cases of over-fatigue, strain, etc., would whip the body to greater activity.

Up to now this search has been unavailing, chiefly for the reason that the majority of these substances had no natural origin. They were foreign substances specially prepared for this purpose. In the case of lecithin, we have a substance which in case of unusual strain or performance is consumed without anything having to be taken to offset its effects.

It may not be amiss to call attention to the fact that a chocolate such as that described would not lead to an increased accumulation of fat; consequently products which have suffered from the demand for slim lines, might be restored to dietetic favor by incorporating in them health's new ally—*lecithin*.

*It is considered advisable to incorporate the lecithin in the fat constituent separately.

"Confectionery Problems"*(Continued from page 59.)*

processes but also contains a wonderful amount of practical information relative to what might be called Batch Troubles and their remedies.

The author's ideas relative to Research are forcefully expressed in the following paragraph.

"At the present time more research is going on within the Industry than is apparent on the surface. This is due to the fact that individual manufacturers are attempting to solve their own problems, not without a serious handicap. Duplication of investigations made by individual manufacturers is not indicated as good business. There are problems of general importance which, when solved, will be of great value to all concerned, and not applicable to only one plant. Such problems should be handled in a community manner and may best be investigated in a Research Department owned and controlled by such a group."

That is sound logic and the Confectionery Industry would do well to give it serious consideration. Research Work along practical lines properly and thoroughly done would be invaluable to the industry.

"CONFECTIONERY PROBLEMS" is a noteworthy contribution to the scant literature of the Confectionery Industry.

Every Confectionery Manufacturer should have at least one copy and as many additional copies as the size of his business organization would justify.

The average Superintendent and Foreman will enlarge his knowledge and be greatly benefited by reading this book.

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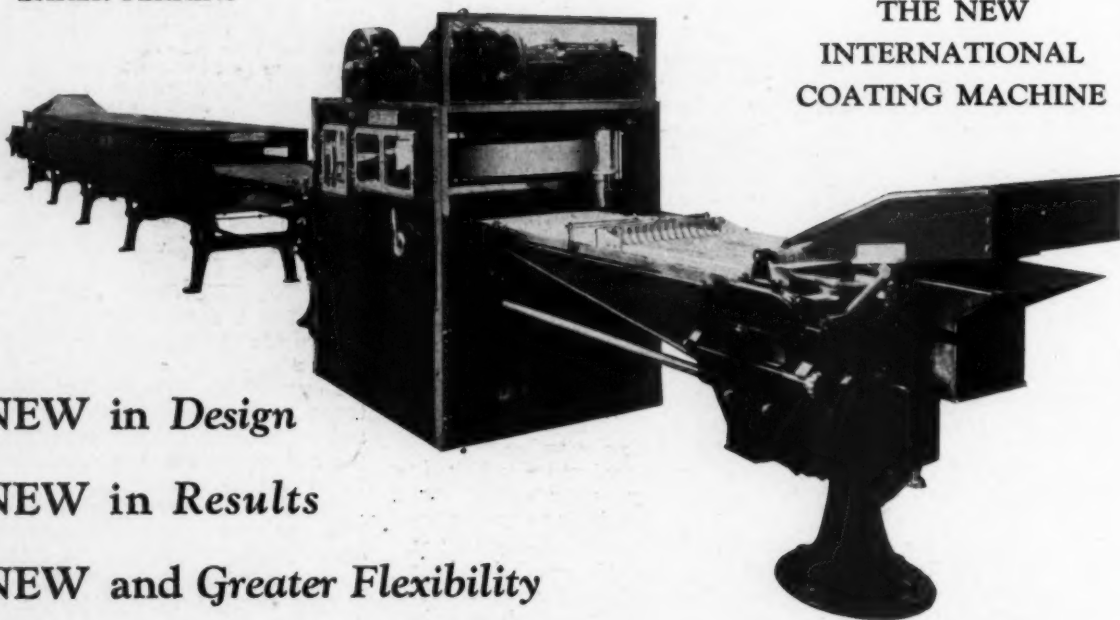
Complimentary copies will be mailed by the National Confectioners' Association to all members. The price to non-members is \$5.00, a very reasonable price indeed for a book of that character. It would be the most profitable \$5.00 investment that any Confectionery Manufacturer ever made.

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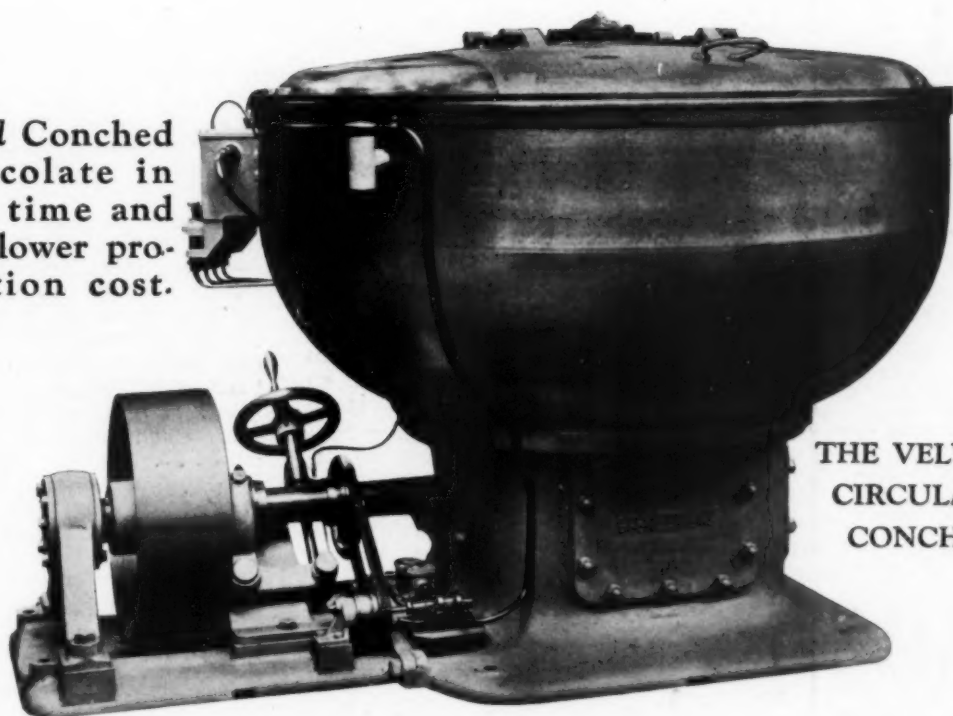


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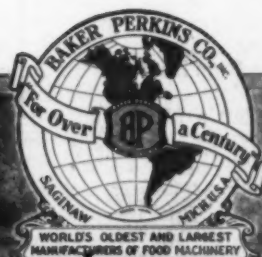
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Confectionery Machines



Insects and the Candy Manufacturer*(Continued from page 72)*

Service and Regulatory Announcements, Bureau of Animal Industry, U. S. Department of Agriculture, January, 1921, contains the following:

"Fumigation with hydrocyanic acid is recognized as a practical and efficient means of ridding buildings of rats, insects and other vermin. Experiments conducted by the bureau have shown that meats may be fumigated with this gas without injury and without absorption of the gas. Such fumigation, therefore, will be recognized by the bureau as a practical means of eliminating rats, mice and other vermin from official establishments. Such fumigation will be permitted without requiring the removal of the meats and other edible products from the premises."

Bulletin No. 75, June, 1901, Maryland Agricultural Experiment Station, on "The Effect of Hydrocyanic Acid Gas Upon Grain and Other Seeds," by Charles O. Townsend, contains the following statement:

"Stored grain and other seeds may be fumigated with hydrocyanic acid gas of required strength and for sufficient time to ensure the destruction of insect pests without injury to the germinating quality of the seeds and without rendering them injurious as foods."

Public Health Reports, Vol. 35, No. 27, July 2, 1920, of the U. S. Public Health Service, says:

"Bread and milk, when exposed to the cyanide gas in the concentration usually advised for fumigating tight compartments, did not absorb or adsorb sufficient cyanide to cause symptoms when fed to white mice."

Although the detection of worms by consumers sometimes results in complaints, more often the course of least resistance is followed and either competitive products adopted or consumption curtailed. In all cases loss of good-will and patronage almost invariably results.

Aggressive and wide-awake candy manufacturers recognize the potential losses involved in shipping wormy products and are taking steps to assure themselves that their commodities leave their premises free from insect contamination. The attendant cost is insignificant, adding but a fraction of a cent to the per pound cost. The candies may be fumigated in the regular, sealed shipping containers,

A Chemist-less Laboratory*(Continued from page 50.)*

vent is added, mixed, filtered, and the specific gravity of the filtrate taken with a special hydrometer. All of the operations are simple and easily learned by a non-technical man.

Viscosity control on coatings can also be handled in the "chemist-less laboratory" through the use of a suitable "viscosimeter." Viscosity control is of great value to the user of coatings, as the operator can calculate from the viscosity reading the exact amount of cocoa butter which needs to be added to obtain the desired fluidity for the machines or for hand-dipping. This provides the ideal control for the enrober room.

What the marshmallow manufacturer is most interested in is controlling the pH of each batch to insure whiteness. A slight alkalinity resulting from variations in the normal ingredients often results in serious discoloration. If the variation is caught before casting, a buffer may be added and the batch saved. A simplified pH control using indicator solutions can be purchased for around \$50. This also provides an instantaneous check on the proper weighing of the ingredients of the batch.

There are many other applications of pH control. One of the most useful is to check the weighing of ingredients. Any error in the weighing of one ingredient in a mixture invariably results in throwing off the delicately balanced pH. This is detected immediately and, it would seem, miraculously, by the change in the color of the suited indicator.

Control of sugar content is a simple matter in sugar syrups containing nothing but sugar and water. In more complex mixtures, however, sugar analysis becomes much more difficult and requires rather expensive optical apparatus as well as skill in operation. The great care necessary in properly reading a polariscope, and the chemical operations involved in the preparation of the sugar solutions for this instrument are probably beyond the average factory employee. Even here, however, it may be possible to find someone who can be trained to run a polariscopic laboratory, provided always that frequent supervision is employed to check results.

The importance of check testing quality of finished batches of candy cannot be too strongly stressed. In the October 1927 issue of THE MANUFACTURING CONFECTIONER there appeared an article entitled "Fault Finding for Profit," in which the author described a method of checking the uniformity and quality of finished candies. This is merely another of the innumerable possibilities which fall within the scope of the chemist-less laboratory. Then we have barometric and temperature correction controls and a number of other controls suited to individual factory needs and conditions. But sufficient has been said to demonstrate the extent to which the ground work has been laid for the long cherished laboratory on-the-installment-plan.

Laboratory service by "remote control" is not new. Why not dovetail it into your plans for the future? You can get a pretty good start for a hundred dollars or so.

It is the small man's opportunity to lengthen the shelf life of his candies; to get increased value from moneys spent for raw materials; to eliminate the worst of his factory troubles and eventually put himself on a competitive basis with the big brothers in the industry who can afford to equip their laboratories outright and man them with chemists ad lib.

Norton Schuyler New Head of For-Eta Nut Co.

Mr. Norton Schuyler recently purchased the interest of John R. Fiorita, former president of the For-Eta Nut Co., St. Louis, Mo., who is retiring from the business. Mr. Jos. P. Fisher is now Secretary-Treasurer of the company.

After graduating from the University of Michigan in 1913, Mr. Schuyler became Sales Manager of the American Paper Products Co. He resigned from this position to join the army, where he saw service in France. After the Armistice he returned to join the Wayne Mfg. Co. as Sales Manager, later coming with the For-Eta Nut Co.

The For-Eta line consists of standard confections such as chocolate-coated peanuts, Spanish peanuts, salted virginia peanuts, petite jellies, sugar coated peanuts and chocolate covered dates.

The Sylvania Industrial Corporation has opened an office at 1014 Glenn Building, corner of Spring and Marietta streets, Atlanta, Ga., for the handling of sales of its transparent cellulose in the Southern states. This office will be in charge of Mr. André Wallach as District Sales Manager.

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